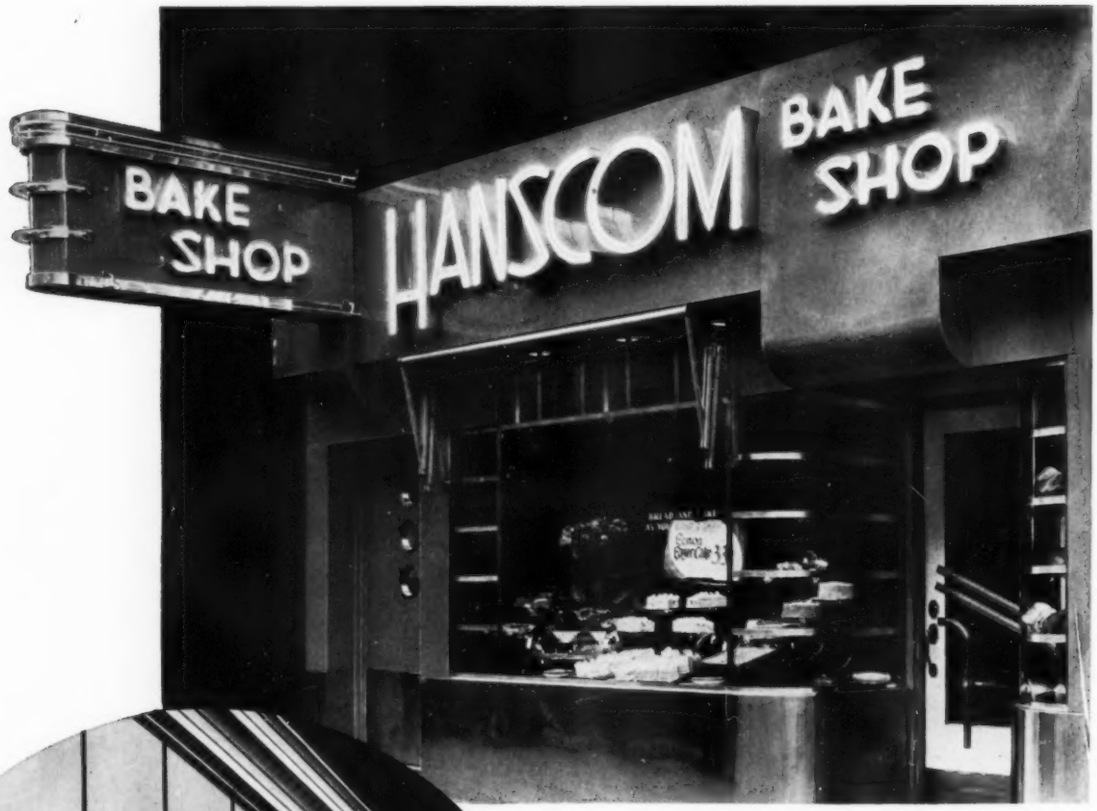
THE ARCHITECTURAL RECORD

1936

8

STORES AND OTHER COMMERCIAL BUILDINGS

STAINLESS STEEL *for store fronts*



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THE ARCHITECTURAL RECORD

VOLUME 80 NUMBER 2 AUGUST, 1936

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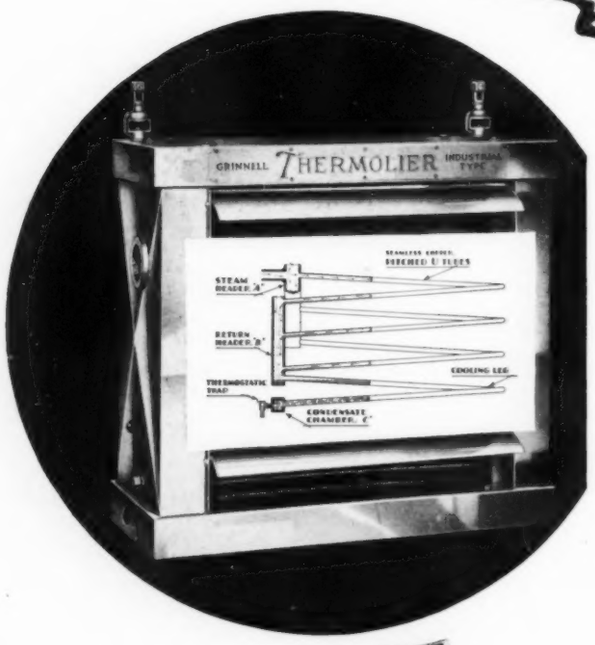

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THE ARCHITECTURAL RECORD

VOLUME 80 • NUMBER 2 • AUGUST 1936

• NEXT • MONTH •

A factual survey of the conditions and trends of architectural practice and of the programs adopted by architectural schools to enable graduating students to meet the new demands of the profession. The survey is based upon documentary evidence partly including questionnaires by the American Institute of Architects and The Architectural Record. By R. L. Duffus.

An illustrated report describing the "greenbelt towns" now being constructed by the Suburban Resettlement Division of the Resettlement Administration. These first major examples of integrated community planning in America differ widely although all are based on the same design procedure. One project is at Berwyn, Maryland; one is near Cincinnati; another is outside Milwaukee; a fourth—held up by court injunction—is intended for an area near New Brunswick, New Jersey.

NEWS OF THE MONTH

ALL NOT QUIET ON THE WESTERN FRONT

Capitol Competition shakes Oregon landscape

At four o'clock in the afternoon on May 26 the jury of award, after less than two days' deliberation, announced the winners of the Oregon State Capitol Competition. "Beautiful without being ornate; useful without being extravagant," said the *Oregon Daily Journal* the next day. "Competent critics who have seen the plans for the Capitol declare that it will fit in perfectly."

It developed almost immediately that there were critics who disagreed; controversy over the competition, the jury, and the prize winners has been raging ever since. Oregon dailies have discussed the pros and cons of the competition and even weekly journals of opinion have jumped into the arena with charges of politics, bungling, haste, and inefficiency. The criticism falls largely into two classes: those who feel that the state capitol commission bungled the entire competition; and those who feel that the jury's selections were poor.

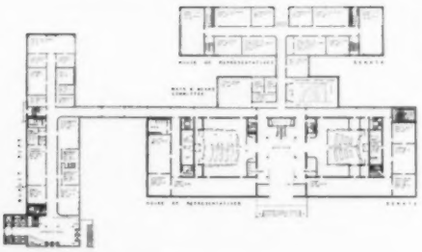
Of the prize-winning Keally-Livingston design, Walter H. Thompson, Philadelphia architect and member of the jury, said that Oregon had made a most "fortunate choice," while David Clark Allison of Los Angeles, the only other architect member, pronounced the plan as being "the most outstanding one presented." Supreme Court Justice John L. Rand called the structure "beautiful and artistic without gaudiness," while Justice Henry Beam contented himself with "grand." Complaining that he could not get used to a capitol without a dome, Board of Control Secretary Dan Fry said "I believe I will like this much better. It grows on you."

State Senator Alan A. Byron thought differently, however, and doubted that the problem of housing the lawmakers had been solved efficiently. "It is not my intent to find fault merely to criticize," Senator Bynon insisted; nevertheless, he "was amazed to find the committee rooms so scattered throughout the building that the public, as well as the legislators, will have difficulty in finding them." Senator Bynon found the winning design reminiscent of the Rhode Island State Capitol, completed in 1902, and felt that, since the Assembly only meets once every two years for a period of 40 to 60 days, the legislative chamber should have been isloated from the main building as in the North Dakota Capitol of 1934.

The competition has led to a wide discussion of the competition system in general. Says the weekly *Oregon Voter*, "an exterior of singular beauty and dignity, the selection of an excellent firm of Portland architects as local associates, and the guarantees of alert watchfulness in the public interest by a competent non-poitical minority on the commission—these tend to redeem somewhat from the general bungling that characterized the handling of the capitol building project from the start, and virtually has defeated any chance of our state to have an adequate physical plant in which a 40-day legislature can operate efficiently. . . . We are doomed to have just one more bungled building whose dignity and stately appearance cover the utter inadequacy of its interior planning. The dear public will never know the difference."

And the *Spectator*, another weekly, feels that Oregon should be thankful "that our new capitol is merely a two and a half million project. From the inception of the plan for rebuilding the burned state house," says the *Spectator*, "politics have been rampant. Legislative sessions have exhausted their energies; local committees have become brainsick trying to find a suitable site; a university has been mixed in the imbroglio; feuds and personal disagreements engendered—all to get site and plans for an inadequate replacement of the 70-year-old structure that was." The element of haste threads the capitol competition from start to finish, according to the *Spectator*, which feels that the A.I.A.-approved competition was not successful in obtaining its objective. "Some means of avoiding the prize contest could have been devised. It and a politically appointed commission are basic in the trouble, not the personnel of the present commission but its manner of selection and rigid requirements of procedure are its handicaps."

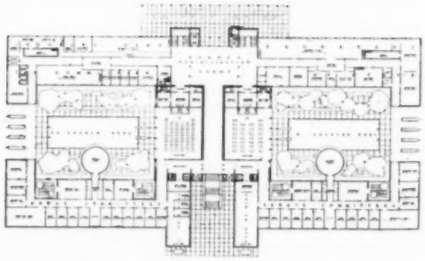
Carl F. Gould of Seattle was selected as Architectural Adviser for the capitol competition, from a list submitted by the Oregon chapter A.I.A. "He wrote a good clean program and it was approved by the Institute's sub-committee" says one correspondent. But then the trouble began. Little more than two months was allowed between the announcement and the close of the competition. The jury, according to Mr. Gould's program, was to consist of two unnamed members of the capitol commission, one outsider, and two unnamed architects. This led to a majority of laymen who had no intimate knowledge of the technical problems involved in the project. Mr. Gould acted as tech-



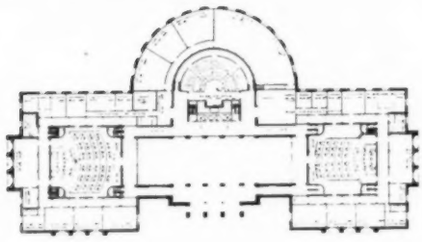
MAIN FLOOR PLAN

"No complaint whatsoever . . . the only feeling I have is one of amazed surprise that the report of the jury should be no more than 17 lines long . . ."
William Lescaze, New York

"We are looking forward with interest to seeing the drawings of other competitors."
Harrison & Fouilhoux, New York City



MAIN FLOOR PLAN

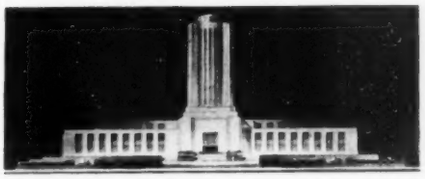


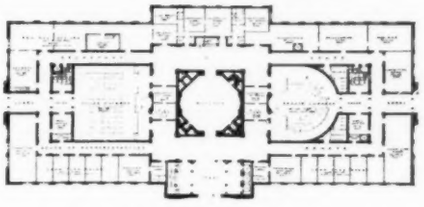
MAIN FLOOR PLAN

"The dice have been cast and a certain antique type won. It is far from what the plan should have been in light of present-day standards."
Hays & Simpson, Cleveland

MAIN FLOOR PLAN

"Glad we entered . . . think the program well written and the requirements reasonable."
Marston & Maybury, Pasadena





MAIN FLOOR PLAN

"Believe the means are at hand to so organize competitions . . . that only a minimum amount of draftsmanship will be required to display a competitor's grasp of the problem . . ."
Ralph C. Flewelling, Los Angeles

nical adviser to the jury but was allowed no vote. No chance for consultation between the competing architects and the commission was allowed for.

We quote the *Spectator*. "In the selection of a winning plan the commission had slight information as to the technical details of the interior arrangements or articulation. There was no provision for future expansion in the chosen entry. No axial basis was specified for later additions. The site was restricted even with the inclusion of the park to the west. Accommodations for various state departments were not included in the accepted design."

Yet the jury, faced with 126 entries or some 700 drawings, reached a decision in less than two full working days. The decision was unanimous. Here again the commission has come in for scathing comment in only allotting $250 each for all expenses of the two architects who were to serve.

The program was "on the whole very clearly worded, fair, and well-written, but it was certainly a mistake to designate that the building had to cost 80c per cubic foot, as this so limited the total cubage as to dwarf considerably the monumental aspects of the building." Oregon's most expensive public building cost only 55c; North Dakota's Capitol only 40c; and Goodhue's elaborate Capitol for Nebraska only $1.

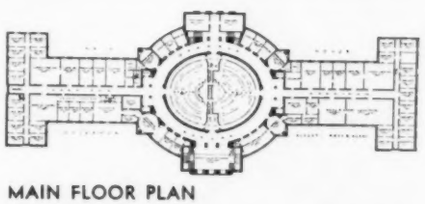
The *Voter* questions the competence of such a jury to pass on a building of this type. It "will be interested to know whether among these was even one . . . author who either by his own legislative experience or by research among people who had legislative experience had any practical realization of what is needed in a legislative plant for Oregon."

Senator Bynon doubts that any one without legislative experience could have anticipated legislative requirements, while the *Voter* feels that "radical revision is needed as the interior arrangements of the adopted plan were made with little knowledge of requirements," And further; "we have had the opportunity to examine the entries of several of our Portland architects. There is evidence that two or three of them had matured understanding of the needs of the building and had laid out floor arrangements that were incomparably superior to those of the chosen design insofar as the arrangement of that design appeared in the published floor plan." The *Voter* cannot understand the omission of working space for legislators when not in session. "The session chamber seating space should be compact so members can be close together and can hear each other easily, but their working desks should be separated in spacious office rooms such as those used by banks and commercial houses. This would require about 30,000 square feet of office space."

"These major matters of design policy should have been considered long ago, but the commission did not consider them and its consulting architect did not give them adequate consideration or he would not have set up the general plan which the commission adopted. The winning firm was restricted by the pamphlet issued by the commission with its lay-out and conditions; we do not criticise the winning architect, but may we hope that now he will go at this great task with a mind yet open for considering change, and may we hope that the commission will consider change even at this late date?"

And Senator Bynon feels "that there are many glaring points that must be changed before construction can be started. A study of the few entries now on public exhibition in Portland reveals that most of them show no more than four unassigned rooms, while the accepted design has the astounding number of 17."

"(1) There is a deficiency in clean, direct and frugal circulation. (2) The plans fail to isolate the legislature and simplify the arrangement of committee rooms, which are scattered on various floors. (3) The plans fail to provide light, airy and cheerful work spaces for employees working in full-time departments. (4) There is an extravagance of elevators—nine, and of stairs—24 different locations."



MAIN FLOOR PLAN

Sulton' Whitney & Aandahl, Jamieson Parker, Herman Brookman, associated, Portland

NEWS OF THE MONTH

OREGON'S CAPITOL COMPETITION: Roi L. Morin AIA

"In this . . I touch on high matters, and delicate to handle . . . . to have treated what is pious with impiety would have been to lack the sense of harmony . . . "

ANATOLE FRANCE,
from 'The Bride of Corinth.'

A new record has been established within the borders of the old Oregon Territory which bids fair to stand for decades to come; for five distinguished citizens in solemn session at Salem, Oregon, on May 25th and 26th, succeeded in passing on one hundred and twenty-three entries—some 700 drawings—in what appears to be less than eighteen hours of actual working time. No more need to waste public time and money in judging competition drawings as in the past. Consider the eleven jurymen who spent twenty-nine days reviewing some 250 entries in the Chicago Tribune Competition! Establishing this new record was very nearly jeopardized by the Technical Advisor's attempt to obtain the services of such practitioners as Dr. Paul Cret and Mr. Ralph Walker on the jury. These men, overzealous in examining plans, might have delayed proceedings considerably; but this attempt was happily frustrated by the Commission's reported setting of only $250 as the remuneration for each architect juror's services.

Some two hundred and sixty firms are said to have signified their intentions of submitting drawings and 123 actually finished, so at least 1000 architects and draftsmen throughout the land must have, at one time or another, been looking for a 'parti,' *pochéing* walls or rendering *entourage*. The cost of production of all drawings submitted is variously estimated at from $75,000 to $100,000. Such industry and wistful wishing as was exhibited by architects should bear fruit against future experience. The lessons gleaned from this competition may well serve as models for the conduct of future ones.

It has ever been the bane of competitors' lives to be kept in ignorance of the identity of jurors. The Institute Code specifically states that the names of jurymen shall be kept secret, though many competitors of long experience feel otherwise. In this competition it proved unnecessary to name the jurors in advance as the winning design was a masterpiece of discernment and could not have gauged the psychology of the jury any closer had its identity been made public.

The selection is said to have been unanimous and the jury stated that the people of Oregon were fortunate in obtaining a design soundly based on classic precedent. Certain curious Oregon architects, after searching diligently through their dust-laden volumes of D'Espouy and Letarouilly to find a 'parti' resembling the basement and first floor plans of the accepted design, are at a loss to know what classic precedent is alluded to, unless it be the catacombs of ancient Rome. Another school of thought feels that the winning 'parti' has a more modern flair because, although the poché is a trifle heavy, since some twenty odd rooms are variously disposed throughout the building without natural light or ventilation, it might have been subconsciously influenced by the layout of the Times Square-Grand Central shuttle. The former suggestion, however, finds more adherents as the shuttle has several major entrances while the accepted design has but one. Those competitors who noticed McKim, Mead & White's 1902 Rhode Island Capitol while searching for a 'parti' might erroneously be led to believe that there exists a similarity between it and the second floor plan of the accepted design, but this is a mere coincidence as one of the winners has assured the Oregon public, through the press, that their Capitol was not copied out of books but was inspired by reading Oregon history.

First-rate designers know that a good 'parti' is as clearly and concretely a subject that bears analysis as a problem in mathematics, and that the very heart of the 'parti' of a monumental building is the circulation. The first matter that a jury should examine (and that the Oregon jury must have examined) is the disposition of entrances, corridors, stairs, elevators, etc. Study these plans to see how splendidly the circulation is handled in the accepted design! None of the malignant influence of the Beaux Arts School with its insistence on axial circulation is evident in this plan, and none of the old-fashioned and outmoded attempt to keep the circulation lighted by natural means. It is assumed that this portion of the design was inspired by reading a history of Oregon, for the circulation in the two lower floors might have been influenced by the strange tale of the perilous journey of Astor's Overlanders in 1811 in attempting to reach the Oregon Country through the Snake River Gorge. Notice also the freedom with which the poché is disposed, hampered neither by the classic school of 'balanced grays' or by the modern school of lightness and airiness. How the masterly handling of unbalanced poché in the Governor's Suite on the second floor must have appealed to the trained members of the jury! Many U. S. architects have seen Carlu's accepted design for the new Trocadero and other French architects' plans, selected in competition, for the buildings for the 1937 Paris Fair. In France these plans are much admired, the poché is so light it appears to be only a series of dots, the circulation is said to be clean, direct and thorough, the work and display spaces are shallow and well-lighted, and the loads are carried wherever possible directly down to bearing soil. The ideas advanced are mostly of the modern school, in direct contradiction of the tastes of the Oregon jury, insofar as reflected in their choice. Which only goes to prove that fifty million Frenchmen *can be wrong*.

It was stated by one of the authors that in his opinion it was the simplicity of the accepted design that won, a statement most disconcerting to many architects who foolishly believed that a plan like Paul Cret's new Federal Reserve Board building in Washington was simple. This goes to prove that the ambiguous word 'simple' is used altogether too loosely in the architectural profession.

In matters of circulation another lesson to be derived from the Oregon competition judgment is in the matter of 'mosaic.' On page 24 the program stated that "no elaboration of corridors or hall floors would be permitted," but at least one competitor elaborately 'mosaiced' both his first and second floor circulation and was still awarded a $1500 prize. The winning design carefully regarded this admonition, but indicated nine elevators and twenty-four different stair locations on the several floor plans. Provincial architects are now wondering if this isn't some new and subtle metropolitan fashion of expressing *mosaic* on competition drawings.

In a series of articles which appeared in the Morning Oregonian purporting to constitute a critical analysis of the accepted Capitol plans, State Senator Allan A. Bynon showed much concern over the arrangement of the Legislative facilities. He pointed out that the Oregon Legislature nominally met only from 40 to 60 days biennially. Thus the North Dakota plan, in which the Legislature is confined to a separate wing where it can be closed off when not in use, might have been a better solution for the Oregon problem. He pointed out that there are at times seventy committees functioning at once with one legislator often on several committees, so the Committee Rooms should be on a minimum of floors all close to the chambers instead of distributed over four floors, from one end to the other of the building. He questioned the wisdom of locating the main —large—Committee Rooms up on the fourth floor, in what appears to be an attic story lighted by skylights. He suggested that the Press Room should be on the same level as and near the legislative chambers, instead of down in the basement wedged in behind the Barber Shop. He showed concern over the disposition of the Engrossing and Stenographers' Rooms as indicated on the third floor plan, saying that the Senate and House Engrossing Rooms should adjoin one another as they had much work to do in common, and that the Stenographers' Rooms should be on the same level as, and adjoining their respective chambers. Such at least has been the *modus operandi* of the Oregon Legislature these many years. The unique features in the accepted design must have appealed to the jury. It may be the Commission's hope to break the legislature of its curious practices, but because of the natural stubbornness of legislators in general, grave doubts are entertained as to whether they will succeed.

After Senator Bynon's criticisms were concluded another Oregon newspaper, presumably speaking for the Commission, hastened to assure the public that the plans were being revised as the competition was held "primarily to facilitate the selection of an architect," a most curious explanation and one which seemed to contradict the statement on page 23 of the program, to wit, that "an outstanding solution is desired and one that will be looked upon now and hereafter, with an ever awakening interest by the people of Oregon." We can only assume from this that (1) either a misstatement was inadvertently allowed to creep into the program, or (2) that no outstanding solution was presented or (3) that the accepted design is the outstanding solution with minor revisions.

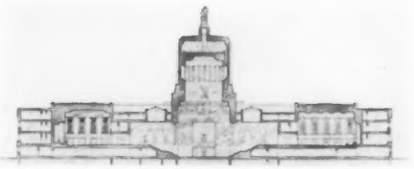
Another feature which must have appealed to the jury is the fresh and entirely original manner in which the roof loads are carried down to bearing from over the Legislative Chambers. Compare the spread of the clerestory on the side elevation with the truss space shown on the longitudinal section, the columns under the clerestory on the third floor plan, and the column spacing on down through to the basement.

The manner in which the cylindrically-shaped upper portion of the rotunda is set down over the square-shaped lower portion without pendentives is another structural feature which should command the admiration of engineers the country over.

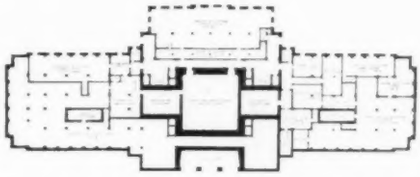
Referring to the structural frame: Oregon, as many people know, is noted for its vast timber resources. Structural lumber in Oregon is very economical as compared with many other sections of the country. Consequently, in fireproof construction reinforced concrete framing is more economical than structural steel, due primarily to the low average cost of form lumber and its intendent labor. Steel-framed buildings in Oregon are rare and it would have seemed desirable to select a design whose spans, loadings, bearings, etc., could have been more economically expressed in reinforced concrete. However, the program made no mention of this fact and the jury was apparently unaware of it, so no one can be blamed if the structural frame is of steel, even if the lumbermen are disconcerted.

One of the lay jurors was heard to remark afterwards that when the final selection was made the outside perimeter of several different entries was measured,

(Turn to page 80)



LONGITUDINAL SECTION: "Shows the large Committee Rooms in the Attic story and the circular upper rotunda setting down on the square lower portion."



BASEMENT PLAN: "The Press Room referred to is here indicated. Some of the departmental offices are broken up between this and the floor above, necessitating extra stairways."

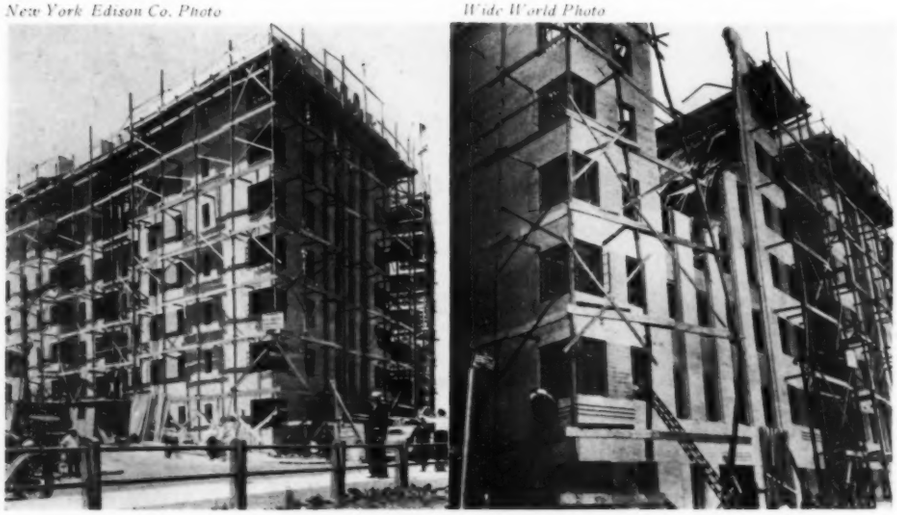
FIRST FLOOR PLAN: "State Secretary's and State Treasurer's Offices located at opposite ends of the building although program stated they should be near one another. Comptroller's Office one of many without natural light or ventilation. Circulation speaks for itself."

SECOND FLOOR PLAN: "The nine elevators and twelve of the twenty-four stair locations indicated on this level. Notice poché in Governor's Wing."

THIRD FLOOR PLAN: "Notice disposition of Engrossing and Stenographers' Rooms. The poché around rotunda and monumental stairs seems a trifle heavy."

NEWS OF THE MONTH

New York Edison Co. Photo *Wide World Photo*



17 MEN DIED WHEN THIS "MODERN" STRUCTURE COLLAPSED

An ornamental masonry tower atop an unfinished apartment building cost the lives of 17 workers in New York on June 19. The building—widely hailed as the Bronx's first completely electrified structure—had been the scene of an elaborate "topping off" ceremony three days previously, at which city officials and business men had praised its advanced design. The collapse came while masons were finishing the tower; without warning the structure gave way, crashing through to the third floor and tearing a V-shaped portion out of the exterior wall—burying many of the workmen in the débris.

A Grand Jury investigation "to find whether there had been any criminal negligence" has so far failed to fix the responsibility. Faulty structural design (the structure had load-bearing masonry wall with wood floor construction), improper bonding between face and common brick, inadequate steel have all been mentioned as a cause of the disaster. Two inspectors of the Bronx Building Department have been suspended but action against owners and architect awaits the outcome of the Grand Jury investigation. Workmen, questioned on the scene, blamed skimping of materials and the "speed-up" under which the building was put up.

It is significant, in the connection, that the proposed City charter, which will be voted on next year, proposes the consolidation of the Building Departments of the five boroughs into one centralized body. Proponents of the new charter point out that such consolidation would greatly increase the effective control of construction and prevent such mishaps in the future.

●

OREGON CAPITOL (cont'd)

as the outside walls of buildings are expensive and it was his desire to select a design with the shortest perimeter encompassing the most interior arrangement.

Another detail for which this competition will be long remembered and which must have cheered the many competitors was the dispatch with which the drawings were returned to their authors. None of this waiting for six months to a year for the return of competition drawings. None of these verbose reports of the jury explaining to the losers why the winners were chosen. The drawings were due in Salem on Friday, May 22, and many of them were already on the return journey less than a week later. The alacrity with which the drawings were repacked made it impossible for a group from the University of Oregon's architectural department to see any but the six prize-winners, although they journeyed to Salem just two days after the judgment. Some long-faced people say that the Commission wished to avoid public controversy, but we have no proof of this.—**Roi L. Morin, A.I.A.**

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28 SCHOOLS SHARE A.I.A. AWARDS

For "general excellence in architecture," thirty graduates of American architectural schools have been awarded the A.I.A. School Medal. Made by the Institutes Committee on Education, the honors were shared by 28 architectural schools throughout the nation.

SEVEN ARCHITECTS ARRESTED: ONE SUICIDE

Seven architects have been arrested following the collapse of a grandstand at Bukarest, when some twenty-five people were killed and over four hundred injured. An eighth architect committed suicide before the police arrived. "Apparently," says *Architect and Building News*, "there is no safety in numbers."

WORLD'S SMALLEST LOT AT AUCTION

Private ownership of land reached a point of all-time absurdity last month when the City of New York auctioned a plot measuring 5.37′ x 3.98′ x 4.18′. It was one of eight parcels of excess land, acquired in recent subway work.

This, however, is not Manhattan's smallest tract. In Greenwich Village, a triangle of land approximately 2′ x 2′ x 2′, is held in private ownership. The owner pays $100 tax each year for the distinction of holding theworld's smallest piece of real estate.

Wide World Studio

FERRO-CONCRETE DIVING TOWERS

The recently opened Astoria Pool in New York is equipped with concrete diving towers of novel design. The central tower has boards at three levels, while springboards are provided at smaller towers on either side. The pool, which is one of the largest in the country, is in reality three pools—one each for wading, swimming and diving. Seen in the background is the recently opened Tri-Borough Bridge.

Photo by Johnson & Peterson

WITH COLUMNS FROM A BANK THAT FAILED

A hundred-year-old residence, recently donated to Wesleyan University at Middletown, Conn., boasts a portico of Corinthian columns from a bank which failed in 1824. The columns are still sound.

FHA INSURES, RFC FINANCES, 2 HOUSING PROJECTS

Two large-scale housing projects involving an estimated cost of $2,702,340 have recently been insured by FHA. One project, Chester Crest Apartments, is located in Westchester County, New York; Sibley & Featherstone, architects, New York. It involves a cost of $1,602,340. The other is "Hillside Gardens," located in the metropolitan area of Washington, D. C., with an estimated cost of $1,110,000; Louis Justement, architect, Washington. Both

Photo by Robert Sennecke

THEY PAWNED THEIR RINGS TO SEE IT

Entrance pylons at the new Olympic Stadium in the Reich Sport Field, outside Berlin. Due to lack of funds, some members of the American Olympic team had to pay their own way and pawned watches, rings, etc., in a desperate effort to make the last boat. The opening week of the Olympics has been proclaimed "a week of laughter" by the Nazis: all Germans are ordered to smile.

NEW YORK ARCHITECTS IN FIRST "SIT-DOWN STRIKE"

Ten architects are now picketing the Park Department in New York City as a result of a "sit-down" protest called in late June by the architectural and engineering employees of the Parks Department. The strike, in which members of the Federation of Architects, Engineers, Chemists and Technicians, and the Architectural Guild of America participated, was protesting the threat of dismissals on July 1, the abolition of vacations and sick leave with pay, the enforcement of the six-day week.

As a result of this protest ten architects, including the most active Guild and Federation members, were fired. They created a mild sensation the following day by barricading themselves in their offices, whence they were removed with aid of policemen. The case has been carried to the WPA Board of Appeals where Arthur Garfield Hays, famous liberal attorney, will present their case, charging that they were dismissed, not for incompetency but for organizational activity. Recent rulings by Administrator Hopkins guarantee the full right of all WPA employees to organize.

NEWSPAPERS TO EXHIBIT AT GOLDEN GATE

Staged by the National Editorial Association, an exposition of the American newspaper from the birth of journalism in New England in the 17th Century to its present indispensable place in national life will be presented at the Golden Gate International Exposition in 1939. Clayton Rand, NEA president, declared that the exhibit will show the world the place the modern newspaper occupies "as a protector of democracy and an invaluable servant of organized society."

EDWARD'S CORONATION BREAK FOR ARCHITECTS

A coronation is always a good business proposition in England; and Edward's next year is to be no exception. Even the students of the Architectural Association will share in the prosperity, according to recent reports, when they will provide London's famous Bond Street with "good" decorations. The competition, which will be held by the Bond Street Association, is part of a national campaign "to raise the standards of street decorations."

1—Millions of Chinese dodge rents and taxes

2—250 Shanghai families pay .81c per house

Photo by Wide World

3—And do their own laundry outdoors.

HOUSING CONTRASTS IN SHANGHAI

Shanghai's new Model Village is a demonstration project for working class families. While the construction cost was incredibly low (approx.) $80 per house, and the rents accordingly small, it should be remembered that the average income of these families is $6 per month. The Model Village, which has its own Major and administrative staff, boasts bathhouses, cooperative store, school, kindergarten, amusement hall and infirmary.

ARCHITECTS TO ADVISE CLEVELAND'S PLAN COMMISSION

Parks Director Hugo Varga last month announced the appointment of a committee of 15 Cleveland architects to serve as advisers to the city plan commission.

NEWS OF THE MONTH

Wide World Photo

NO CONSTRUCTION HERE

4,200 dead, 1,000,000 thrown on relief, crop and property damage of $500,000,000—this is the bill for the current drought which covers two-thirds of the Nation. Not wholly an Act of God, this. The recurrent droughts and dust-storms in the West are the result of improper land use. The Government's policy of limiting each home-steader to 160 acres of land forced farmers to plow up the grasslands (since the tracts were too small for grazing): the World War, with its vast and short-lived demands for wheat, hastened "the breaking of the Great Plains;" and now, with the collapse of the world wheat market, individual farmers find it impossible to shift back to a cattle-raising economy.

New Deal agencies, stepping rather belatedly into the picture, announce that relief will be available. RA's Tugwell will move thousands of families out of the drought area. WPA Administrator Hopkins has aready instituted a water-conservation program in which thousands of ruined farmers will be empoyed. Millions of acres must be returned to grass; reforestation and erosion control work must be started on a larger scale (President Roosevelt's much heralded "Shelter Belt" was quietly killed by the last Congress); flood control must be undertaken on a national scale and in relation to a national plan.

PROFESSIONALS FIND NEW HOUSING BILL "CONSTITUTIONAL"

Introduced into the last Congress was the little known Housing Bill of Rep. Byron Scott (Dem., Cal.). Although it attracted scant publicity in the pre-convention atmosphere, the Scott Bill has received wide support from professional, tenant and labor groups. Formulated by the Inter-Professional Association, national organization of professionals, and the FAECT, the Scott Bill will be reintroduced in the next Congress. *News-Bulletin*, IPA organ, analyzes the Bill in a recent issue. Pointing out that the Wagner Housing Bill has several fundamental weaknesses—the funds to be made available are "grossly inadequate," no definite maximum on rentals is established, and too much discretionary power is placed in the hands of the Authority which it creates.—*News-Bulletin* says:

"The Scott Housing Bill today represents the only realistic and adequate solution of the housing problem of the low income groups. The following are the basic concepts and provisions of this bill:

(1) Private enterprise in establishing rental charges of necessity includes the items of (a) the repayment of the land and construction cost together with interest or profit thereon, (b) the cost of maintenance and (c) taxes. Experience has demonstrated that the rental charge for new, adequate housing which is based on all of these items is beyond the means of the majority of American families. Three-quarters of the families of the United States have annual incomes of less than $1,500 and can safely pay for rent not more than about $5 per room per month. Because of this the Scott Bill is founded on the concept that low-rental housing can be achieved only where there is an outright grant of the total land and construction cost and where the rental charge is based only upon the cost of maintenance and the payment of local taxes. Under present conditions such a charge would not exceed $5 per room per month in large cities like New York, Chicago and Philadelphia, and would be less elsewhere.

(2) The creation of a Housing Fund out of the United States Treasury. Outright grants to Public Housing Agencies of 85 per cent of the land and construction cost will be made out of this Fund for the purpose of providing modern housing for families of low income at a rental charge not exceeding $5 per room per month.

(3) The creation of a Housing Authority to disburse the Housing Fund. Federal grants will be made only to Public Housing Agencies who agree to certain conditions under which the housing will be constructed and operated. These conditions are:

(a) That the Public Housing Agency contribute the balance of 15 per cent of the land and construction cost in the form of a local outright grant.

(b) That the rental charge shall not be more than $5 per room per month and less where possible.

(c) That no family shall be eligible for this housing whose income exceeds $1,000 plus $250 for each dependent in excess of two. This means that the maximum annual income for the average family of four would be $1,500.

(d) That priority of application shall determine the right of occupancy.

(e) That union wages be paid to all employees in any way connected with the construction and operation of the housing.

(f) That the tenants shall have adequate tenure rights and that there shall be no discrimination by reason of religion, political opinion, etc.

(g) That construction standards of the Research and Planning Division created under the Act be followed.

(4) The establishing of a schedule of annual construction under which the Housing Authority will be required to make outright grants to qualified local agencies for the construction of a total of 10,000,000 dwelling units within a period of 10 years."

News-Bulletin points out that, although no compromise has been made with the basic concepts of "an adequate, low-rental housing program," the Scott Bill is constitutional. Under this Bill, the U. S. Housing Authority does not construct, own or operate housing: this is delegated to local Public Housing Agencies. Nor does it "delegate unwarranted powers" to the Authority—the feature which the Supreme Court has found most distasteful in New Deal legislation.

The Scott Bill is of utmost importance to all architects and engineers, and *News-Bulletin* urges all professional groups to familiarize themselves with it.

CALENDAR OF EXHIBITIONS AND EVENTS

- **August 24–29** — "Environment and Its Effect on Man: Symposium," Harvard School of Public Health, Boston
- **August 31 to September 3** — 30th Annual Convention, Illuminating Engineering Society, Buffalo, N. Y.
- **September 7–12** — Third World Power Conference and Second Congress on Large Dams, Washington, D. C.
- **September 14** — Opening: Fall term, Pennsylvania Academy of Fine Arts—Philadelphia, Pennsylvania.
- **September 15** — Preliminary Examination for Assistant Civil Engineer: U. S. Navy Department, Bureau of Docks and Yards, Washington, D. C.
- **September 25** — Community Planning and Housing Courses: School of Architecture and Allied Arts, New York University, New York City
- **September 28** — Public Housing Courses: New School for Social Research, 66 W. 12th St., New York City
- **October 19–23** — Seventeenth Annual Meeting, American Welding Society, Cleveland, Ohio
- **November 30** — Twelfth National Exposition of Power and Mechanical Engineering, Grand Central Palace, New York City

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Courtesy "Architectural Review"

ARCHITECTURE: ALMOND PASTE, NOT CAST IRON

This rustic garden house by Urbain Dubois, chef-du-cuisine to the Emperor of Prussia, is one of the many "architectural" works with which the great French chef fed his Imperial employers. Using almond paste, icing sugar, puree of game, truffles—in fact, food of all sorts—Dubois created castles, lighthouses, minarets, churches. His approach was a professional one. Architectural cookery, said he, was subject to "true principles of science"; nonobservance of fundamentals of structure could never be redeemed by elegance of shape.

HENRY WRIGHT, TOWN-PLANNER, DIES SUDDENLY

Wide World Photo

Dead last month was Henry Wright, the nation's No.-1 town- and site-planner, after a short illness, at the age of 58 years. Born in Kansas, of Quaker parentage, he attended the University of Pennsylvania from which he graduated in Architecture in 1901. However, his chief interest and most active work lay always in the field of planning rather than architecture. As early as 1903 in Kansas City he was engaged in park development. He was one of the planners of the St. Louis Fair: and moving to St. Louis in 1907, he became active in the early city planning movement in the Middle West. It was during this period that he designed the St. Louis Country Club subdivision, laying out the new club grounds and converting the old ones into a high-class subdivision. He was one of the earliest exponents of large-block (peripheral) planning and his subdivisions of this period reveal the first trends away from the gridiron plotting.

In 1918-1919 he came East to become Town-Planning Assistant for the housing development of the U. S. Shipping Board: these shipping board towns of Newburg, Bridgeport, and Camden reveal his increasing interest in town- as opposed to city-planning. In 1920 he returned to St. Louis where he became architectural adviser to the City Planning Commision; but in 1923 he returned to New York to become Town Planning Consultant to the City Housing Corporation. It was at this time, associating with Architect Clarence Stein, that the famous Sunnyside Housing Development in New York City was designed and executed. This project was soon followed by Radburn, the "Town for the Motor Age."

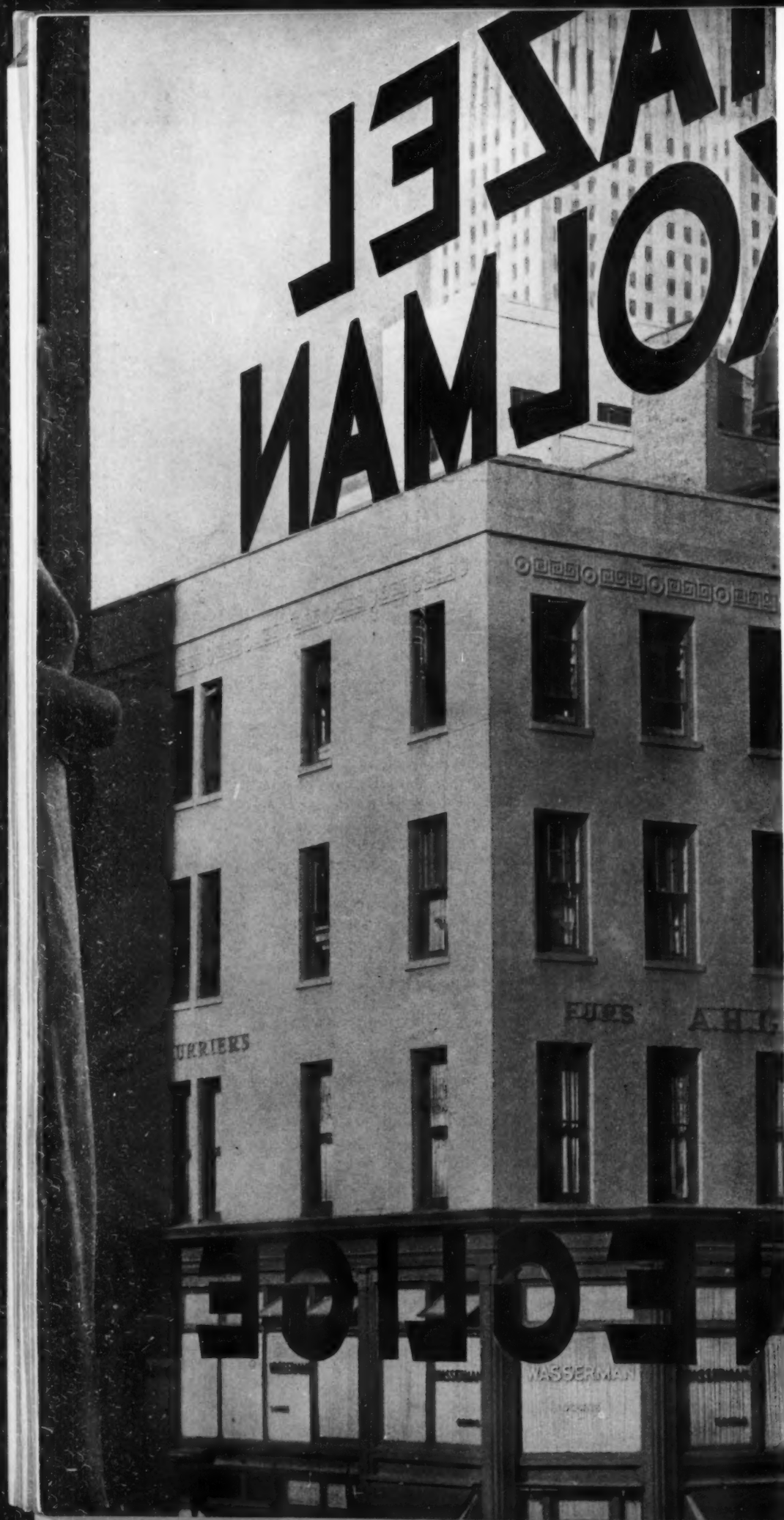
Mr. Wright was consultant to the Rosenwald Foundation on its model tenement project in Chicago. With Clarence Stein, he planned the first section of Chatham Village, limited-dividend project of Pittsburgh's Buhl Foundation. He did the site-planning on the second section of the Chatham Village, completed last year, alone.

In 1926 he supervised the preparation of a plan with the New York State Planning Commission, one of the earliest of its sort in the country. From 1930 until 1933 he lectured on housing at various universities, completing in this year the last of four European housing tours.

He was a member of Robert Kohn's ill-fated PWA Housing Division in 1933 and in 1934 was one of two American representatives selected to accompany Sir Raymond Unwin and Miss A. J. Samuel of England, and Dr. Ernest Kahn of Germany, on a housing tour of fourteen American cities. In 1935 he returned to Washington where he was Town Planning Consultant for the Rural Resettlement Administration. Last year he became Associate in Town-Planning to the faculty, Columbia School of Architecture: and at this time his book "Re-Housing Urban America" was published by the Columbia University Press.

HARVARD TO STUDY EFFECT OF ENVIRONMENT ON MAN

As part of its Tercentenary Celebration, Harvard's School of Public Health will this month hold a 6-day symposium on "The Environment and its Effect on Man." Covering a very wide range of subjects-matter, the papers will be presented by a distinguished group of specialists from all parts of the country. Air conditioning, industrial hygiene, fatigue, physiological effects of high pressures, toxicology of gases are among the subjects to be treated. The Symposium opens August 24 at the School of Public Health in Boston.



PHOTOGRAPH BY
BEN SCHNALL

RETAIL OUTLETS PER 1,000 FAMILIES

BY HOWARD WHIPPLE GREEN
Director, Real Property Inventory of Metropolitan Cleveland

EDITOR'S NOTE

The Real Property Inventory, created in Cleveland in 1932—one section of which was expanded in one direction by the Bureau of Foreign and Domestic Commerce as their Real Property Inventory of 64 cities, the forms and instructions for which were used in a large number of other cities such as New York, Philadelphia, Boston, Buffalo, and Pittsburgh as CWA projects, and modified in another direction by the Federal Housing Administration and used as WPA projects in another large number of cities—has been carried out in the entire Cleveland Metropolitan District for four consecutive years, tabulated, analyzed, and published in a series of eight bound volumes containing 2,264 pages.

One section of the Cleveland Real Property Inventory was concerned with a detailed study of the use of 130 miles of street frontage on 17 principal thoroughfares. This section includes tabulations by type of use—retail, service, wholesale, manufacturing, residential, vacant land, and so forth, by units, and by feet of street frontage. Published for three consecutive years, this section makes possible a better understanding of the changes constantly taking place in type of use and in ownership or operation of each store unit and other location along this entire frontage.

Another section of the Cleveland Real Property Inventory includes a tabulation of retail outlets by type, occupied and vacant, each October for four consecutive Octobers.

These two series of data, carefully collected, tabulated and analyzed, make possible the presentation of the factors discussed in this article. The article is designed to promote community planning, which is generally accepted by leading institutions and by city planners as the key both to suburban development and to slum remodeling.

WHAT is the population? How many people live in this city? How many inhabitants are there in that neighborhood in which it is planned to establish the store?

Always population—when, as a matter of fact, families are more significant than people. Families occupy dwellings, either renting or owning. Families subscribe to telephone service, pay water and gas bills, and use electricity. Families buy pianos, radios, and other furniture and furnishings. They buy automobiles, subscribe to newspapers and magazines, patronize bakers, butchers, and grocers. And from architects' standpoints, families once in a while retain them to design new homes.

Thus it is seen that the 1,200,000 and some inhabitants of the Cleveland Metropolitan District become more vital when considered as 304,455 families.

Number of Retail Outlets

These families are served by 20,649 retail outlets. Nearly one-third of these stores are food stores, 6,352 of the 20,649. As many as 1,379 are groceries, 922 meat markets, 1,400 have both groceries and meats, 734 are fruit and vegetable stores, 430 delicatessens, 979 candy and confectionery stores, and 508 bakeries. Restaurants, although not strictly retail outlets, number 1,937 alone. Thus 8,289 or 40 per cent of all retail outlets are devoted to the sale of foodstuffs, cooked and served, partially cooked and raw.

Gasoline stations number 1,587, drug stores 597, hardware stores 460, and so forth, as shown in Table 1.

Some of the 23,566 stores and store units are vacant. The vacant units represented 12 per cent of all last October, a slightly smaller per cent than in 1932 or in 1933, there being 15 per cent vacant in October of each of these years.

20 Per Cent of the Retail Outlet Food Stores in Rock River; 44 Per Cent in Garfield Heights

The Cleveland Metropolitan District includes 12

cities and 31 villages and townships. It extends from Lorain County on the west into Lake County on the east. It stretches along Lake Erie for some 36 miles.

Nearly one-third, 31 per cent, of all occupied stores in Metropolitan Cleveland are food stores exclusive of restaurants and eating places. Food stores also represent 31 per cent of Cleveland's stores, 30 per cent of Lakewood's, 32 per cent of Cleveland Heights', 27 per cent of East Cleveland's, and 30 per cent of Shaker Heights'.

Forty-four per cent of Garfield Heights' stores are food stores, 37 per cent of Parma's, 26 per cent of Euclid's, 29 per cent of Bedford's, 36 per cent of Maple Heights', 23 per cent of Berea's, and 20 per cent of Rocky River's. In the rest of the metropolitan district 20 per cent of all stores are food stores. Thus while 20 per cent of all stores are food stores in Rocky River and the villages and townships in the metropolitan district, 44 per cent of all stores in Garfield Heights are food stores.

The proportion of stores used as restaurants and eating places amounts to 9 per cent in the metropolitan district and varies from 4, 5, 6, and 7 per cent in Cleveland Heights, Lakewood, East Cleveland and Shaker Heights respectively, to 15 per cent in Rocky River, 16 per cent in Maple Heights, and 19 per cent in the villages and townships of the metropolitan district.

Gasoline Sold in More Places Than Food

In some of Cleveland's suburbs more retail outlets are gasoline filling stations than food stores, exclusive of restaurants and eating places. There are 29 gasoline filling stations in Rocky River as compared with 21 food outlets; and in the metropolitan district outside of the 12 cities there are 175 gasoline stations as compared with 133 food outlets. Thus 28 per cent of the retail outlets are gasoline filling stations in Rocky River as compared with 20 per cent which are food stores, and 26 per cent in the villages and townships in the county as compared with 20 per cent which are food stores.

68 Stores Per 1,000 Families

As many as 77 stores and vacant store units per 1,000 families are provided in the entire community; 68 per 1,000 families were occupied last October and 9 per 1,000 families were vacant. The occupied stores were of various and sundry types. Food was sold in some, clothing in others, and furniture, hardware, jewelry and other articles purchased by families and individuals in others.

Different numbers of each type of retail outlet are required to serve the average group of 1,000 families. There are 12.2 grocery stores and meat markets, 2.4 fruit and vegetable stores, 1.4 delicatessens, 3.2 confectionery stores, and 1.7 stores selling baked goods, per 1,000 families. There are 6.4 restaurants per 1,000 families. Thus 27.3 retail outlets provide food for the average unit of 1,000 families. Expressed another way, there are nearly 3 such retail outlets per 100 families, one to each 37 families.

The average group of 1,000 families has 2 drug stores, 1 shoe store, 1 men's wear store and 2 women's wear and dry goods stores, 1 radio or electrical goods shop, and 2 hardware stores. Gasoline stations are more liberally supplied, there being more than 5 per 1,000 families.

The number of retail outlets per 1,000 families in Cleveland, 89, is naturally larger than in the smaller places. Cleveland is the large trading center for northeastern Ohio. Not only are the families of Cleveland served by its stores but those living in the other cities and villages throughout the metropolitan district are also served, and those living in numbers of other counties in northeastern Ohio make their major purchases in Cleveland's stores. Nevertheless, each of the other 11 cities has its own retail outlets and the villages have theirs.

Only 20 Stores Per 1,000 Families in Shaker Heights

Lakewood, a city of over 70,000 inhabitants in 1930, has 45 stores and vacant store units per 1,000 families, as contrasted with 89 in Cleveland. Cleveland has 11 vacant store units per 1,000 families, while Lakewood has but 3 per 1,000 families. Cleveland Heights, a city of over 50,000 inhabitants in 1930, has 38 stores and vacant store units per 1,000 families. Cleveland Heights has fewer than 3 vacant stores per 1,000 families. East Cleveland, a city of nearly 40,000 inhabitants in 1930, has 50 stores and vacant store units per 1,000 families.

Shaker Heights, a city of nearly 18,000 inhabitants in 1930, and with over 22,000 inhabitants in 1936, has only 22 retail outlets and vacant stores per 1,000 families. This number is small because of the strict zoning maintained in this newest of

TABLE 1

NUMBER AND PER CENT OF SELECTED TYPES OF RETAIL OUTLETS

CLEVELAND METROPOLITAN DISTRICT — OCTOBER, 1935

Type of Retail Outlet	Number	Per cent	Per cent
FOOD GROUP			
Bakery	508	2.2	2.5
Candy and Confectionery	979	4.2	4.7
Delicatessen	430	1.8	2.1
Fruit and Vegetable	734	3.1	3.6
Grocery	1,379	5.9	6.7
Grocery and Meat	1,400	5.9	6.8
Meat	922	3.9	4.5
AUTOMOTIVE			
Accessories	344	1.5	1.7
Gasoline Stations	1,587	6.7	7.7
APPAREL			
Men's Wear	317	1.3	1.5
Women's Wear and Dry Goods	567	2.4	2.7
Shoes	313	1.3	1.5
FURNITURE AND HOUSEHOLD			
Furniture	271	1.1	1.3
Radio	134	.6	.6
RESTAURANTS	1,937	8.2	9.4
LUMBER AND BUILDING			
Electrical Goods	159	.7	.8
OTHER			
Hardware	460	2.0	2.2
Cigar	155	.7	.7
Drug	597	2.5	2.9
ALL OTHER	7,456	31.6	36.1
TOTAL	**23,566**	**100.0**	
VACANT	2,917	12.4	
OCCUPIED	20,649	87.6	100.0

Cleveland's larger suburbs. The small number of vacant store units, less than 2 per 1,000 families, is doubtless a result of the strict zoning regulations.

As Many as 81 Stores Per 1,000 Families In Berea

The number of stores and vacant units per 1,000 families varies in the other suburban cities: Garfield Heights has 39, 4 vacant and 35 occupied; Parma 37, 2 vacant and 35 occupied; Euclid 49, 6 vacant and 43 occupied; Maple Heights 53, 6 vacant and 47 occupied; and Rocky River has 69, 11 vacant and 58 occupied. The more self-contained cities of Bedford and Berea have 79 and 90 occupied stores and vacant store units per 1,000 families respectively. The vacant store units are numerous, 7 and 9 per 1,000 families respectively. The other cities and villages in the metropolitan district have 56 stores and vacant store units per 1,000 families, 7 vacant and 49 occupied.

Width of Store—Frontage

Some of the stores are narrow and others wide. Some take a few feet of the busy thoroughfare's frontage, others many feet. The average width used by all stores and vacant store units is nearly 30 feet, 29.8, to be exact. The food group takes an average of 21.5 feet per outlet. Meat markets, candy and confectionery stores, fruit and vegetable stores and bakeries average from 19 to 20 feet of street frontage. Delicatessens take 20 feet on the average. Grocery stores without meat departments take 21 feet, while the combined grocery and meat stores take nearly 27 feet. Dairy products stores take nearly 28 feet of the street frontage, and other types of food stores require over 32 feet on the average.

The general merchandise group uses more street frontage per unit, a total of over 36 feet. Department stores, while few in number, seem to require over 107 feet, dry goods and general merchandise stores 26 feet, and variety stores, that is, 5-and-10-cent stores, nearly 31 feet on an average.

The average apparel shop requires less space than either of these two groups, only 20 feet. The women's ready-to-wear shops seem to require an average of 19 feet, while the men's and boys' clothing stores take 27 feet. Shoe stores take just under 20 feet and other apparel and furnishings outlets 18 feet.

The furniture and household group takes nearly 30 feet on an average, the furniture store nearly

46 feet, the floor covering store 24 feet, the household appliance shop more than 29 feet; the radio and music store nearly 20 feet, and other outlets included within this group use nearly 26 feet.

More street frontage is consumed by the automotive group per retail outlet, nearly 31 feet per automobile accessory shop and 46 feet per garage. More than 69 feet are used by the average automobile dealer's showrooms and 89 feet by the filling stations.

The miscellaneous group uses an average of nearly 26 feet. Jewelry stores take the least street frontage, less than 19 feet. Gift shops, music stores, and luggage and leather goods stores, use less than 20 feet. Next come the news store, the book store, and the cigar store, using slightly more than 20 feet. The hardware stores and the stationers and printers shops use 24 feet, the florist shops 28 feet, the office supplies and equipment places 32 feet, coal and ice dealers 67 feet, and drug stores 25 feet.

The vacant store unit has an average frontage of slightly less than 21 feet.

Retail Outlets for 1,000 Families Valuable in Planning

Thus a village of 4,000 inhabitants, a resettlement project of this size, or a self-contained housing project with 1,000 family units may be designed for the proper number of store units. Table 2 presents data illustrating the maximum provisions which should be made.

Miles of Street Frontage Used by Retail Outlets

A total of 130 miles of street frontage along the entire length of 17 principal thoroughfares in Greater Cleveland has been measured by the number of feet used for each type of retail outlet each March for three consecutive years, 1934, 1935 and 1936.

All retail outlets in the Cleveland Metropolitan District have been recorded each October for four consecutive years, 1932, 1933, 1934 and 1935. The number of each type of outlet is thus determined.

It is thus possible to estimate the total number of feet of street frontage occupied by retail outlets and the amount occupied by vacant store units. Actual measurements of all such street frontage in the Cleveland Metropolitan District have been made and the tabulations are in process of preparation. Prior to the publication of such definite data and based upon the two series of measurements carried out for four and three consecutive years respectively, estimates have been prepared. These estimates indicate 126 miles of occupied stores and vacant store units, 115 miles of occupied stores and 11 miles of vacant store units, in the metropolitan district. They indicate a total of 16 miles of grocery stores and meat markets, 3 miles of drug stores, 2 miles of hardware stores, and 27 miles of gasoline filling stations. Thus, 219 feet of occupied stores and vacant store units, 199 feet of occupied stores, and 20 feet of vacant store units per 100 families, are indicated from the data already analyzed. This amounts to 2 feet of frontage per family.

Location and Management Affect Volume of Sales

Fewer stores should be operated in order that all might make fair profits. Profits and losses are a story in themselves. Stability in business is closely related to success of operation. Success of operation depends upon location and management. In the most fortunate locations management may ruin the investment and the store may have to close. With the best of management the poorly-located store may meet a similar fate.

Changes in the Use of Street Frontage by Retail Outlets

A total of 7,053 retail outlets was in operation on 17 of the principal thoroughfares of Greater Cleveland in 1934, and 7,041 in 1936.

During this two-year period the total number of retail outlets remained practically the same. The total decreased but the decrease was only eight, hardly one-tenth of one per cent. Many of the occupants at the earlier date had been replaced by others. The type of business in many instances had changed. Occupied stores become vacant and vacant stores become occupied. While there were practically the same number of stores located on these thoroughfares in 1936 as in 1934, 1,368 had moved or gone out of business and 1,520 had come into the picture. The ownership had changed between 1934 and 1936 in the case of 566 of these retail outlets.

During the two years 19 per cent of the retail outlets moved or went out of business and 8 per cent changed ownership. Thus a radical change came about during the two-year period in one out of every four retail outlets on 17 principal thoroughfares.

Retail outlets, service establishments, and other

TABLE 2

SELECTED RETAIL OUTLETS PER 1,000 FAMILIES AND STREET FRONTAGE USED

ESTIMATE FOR ENTIRE CLEVELAND METROPOLITAN DISTRICT IN 1936

Type of Retail Outlet	Number per 1,000 Families	Average Street Frontage in Feet	Number of Feet of Street Frontage per 1,000 Families
FOOD GROUP			
Bakery	1.7	19.9	33
Candy and Confectionery	3.2	19.5	63
Delicatessen	1.4	20.0	28
Fruit and Vegetable	2.4	19.6	48
Grocery	4.6	20.9	94
Grocery and Meat	4.6	26.7	123
Meat	3.0	19.2	58
AUTOMOTIVE			
Accessories	1.1	30.8	35
Gasoline Stations	5.2	89.0	464
APPAREL			
Men's Wear	1.0	27.1	28
Women's Wear and Dry Goods	1.9	22.3	42
Shoe	1.0	19.7	20
FURNITURE AND HOUSEHOLD			
Furniture	.9	45.6	41
Radio	.4	19.5	9
RESTAURANT	6.4	23.9	152
LUMBER AND BUILDING			
Electrical Goods	.5	19.5	10
OTHER			
Hardware	1.5	24.0	36
Cigar	.5	20.8	11
Drug	2.0	25.1	49
ALL OTHER	24.5	26.6	650
TOTAL	**77.4**	**28.3**	**2,194**
VACANT	9.6	20.8	200
OCCUPIED	67.8	29.4	1,994

places of commercial activities change in two ways. They change in use, that is, an occupied store becomes vacant or a vacant store becomes occupied, or a grocery store becomes a drug store, or a beauty parlor becomes a hardware store. They change in occupancy, that is, Joe's Restaurant becomes Smith's Restaurant, or Brown's Hardware Store becomes Jones' Hardware Store.

Changes in Occupancy of Units by Food Stores

Three hundred and thirty-three of the 1,857 store units occupied by food outlets in 1934 had changed their occupancy during the two-year period between 1934 and 1936. Sixty-eight were still used by the food group two years later, 55 by restaurants and eating places, 6 by the general merchandise group, 6 by the automotive group, 11 by the apparel group, 8 by the furniture and household furnishings group, 4 by the lumber and building materials group, 22 by other retail stores, 41 by service establishments and so forth, and 112 had become vacant.

While this was happening 326 store units occupied by other outlets or vacant units became food outlets. As many as 68 had been used by the food group, 18 by restaurants and eating places, 5 by the general merchandise group, 11 by the automotive group, 20 by the apparel group, 9 by the furniture and household appliance group, 1 by the lumber and building materials group, 22 had been used by other retail stores, 38 had been used by the services and other groups and 134 had been vacant.

Thus 18 per cent of the food outlets of 1934 had disappeared by 1936 and practically an equal number of store units had become occupied by retail outlets included in the food group.

Changes in Occupancy of Units by Restaurants and Eating Places

One hundred and eighty-eight of the 949 stores occupied by restaurants and eating places changed their occupancy between 1934 and 1936. None continued as restaurants, 18 became occupied by the food group, 2 by the general merchandise group, 5 by the automotive group, 8 by the apparel group, 8 by the furniture and household furnishings group, 4 by the lumber and building materials group, 14 by other retail outlets, 42 by service establishments and so forth, and 87 became vacant.

While this was happening 332 store units which had been occupied by other retail outlets or had been vacant became restaurants and eating places.

Fifty-five had been occupied by food stores, 4 by the general merchandise group, 7 by the automotive group, 18 by the apparel group, 13 by the furniture and household furnishings group, 3 by the lumber and building materials group, 30 by other retail stores, 55 by service establishments and so forth, and 147 had been vacant.

Thus 20 per cent of the restaurants and eating places in 1934 had disappeared by 1936 and a somewhat larger number of store units had become occupied by retail outlets included in the restaurant and eating-place group.

Changes in Occupancy by the General Merchandise Stores

Forty-one of the 214 store units occupied by the general merchandise group changed their occupancy during the two-year period between 1934 and 1936. None was used by the general merchandise group. Two years later, 5 were used by the food group, 4 by restaurants and eating places, 3 by the apparel group, 4 by the furniture and household group, 7 by other retail stores, 9 by service establishments and so forth, and 9 had become vacant.

While this was happening, 47 store units occupied for other purposes and 16 vacant store units became general merchandise outlets. As many as 6 had been used by the food group, 4 by the furniture and household group, 1 by the automotive group, 4 by the apparel group, 2 by restaurants, 1 by the lumber and building group, 4 by other retail stores, 9 by service establishments and so forth.

Thus 19 per cent of the store units occupied by general merchandise stores in 1934 had disappeared by 1936 and practically an equal number of store units had become occupied by retail outlets included in this group.

Vacant Units Occupied and Other Vacated

Store units are constantly becoming vacated by one business and occupied by another. During the two years the smallest turnover, a turnover of only 13 per cent, occurred in retail outlets operated in connection with motor vehicles. This small change is probably accounted for by the large number of gasoline filling stations that are operated year after year. The largest turnover, 29 per cent, occurred in the store units occupied by furniture and household furnishing stores.

Over half, 55 per cent, of the vacant store units of 1934 on the 17 principal thoroughfares became occupied, and a smaller number became vacant.

Hardware Stores Disappear

Twenty-two of the 178 store units occupied on the principal thoroughfares by hardware stores in 1934 changed type of use within two years. Nine became vacant by 1936. The others became grocery stores, meat markets, variety stores, automobile salesrooms, restaurants, florist shops, shoe repair shops, poolrooms, and so forth.

Thus 9 store units rented as hardware stores in 1934 became vacant during the intervening two-year period, and 13 were rented for other types of business.

During the two years while these changes were taking place 17 store units were occupied by hardware stores. Two years previously 9 had been vacant. The others had been fruit and vegetable stores, groceries with meat departments, variety stores, tire shops, women's ready-to-wear shops, household appliance stores, and so forth.

Candy and Confectionery Stores Go Out of Business

The locations occupied by 78 of the 380 candy and confectionery stores in 1934, showed in 1936 one dairy products store, 2 delicatessen stores, 4 grocery stores (without meats), 3 grocery and meat outlets, 1 dry goods store, 2 auto accessory shops, 1 men's and boys' clothing store, 1 other apparel shop, 27 restaurants and eating places, 2 drug stores, 1 news dealer, and 1 other store. This accounts for 46 of the 78 changes of business. Four others became beauty parlors, 1 a cleaning and pressing establishment, and 3 others service establishments. Twenty-one had become vacant, 1 a part of a hotel, 1 a special school, and 1 a vacant lot. Thus 21 per cent of the 380 candy and confectionery stores within two years had disappeared.

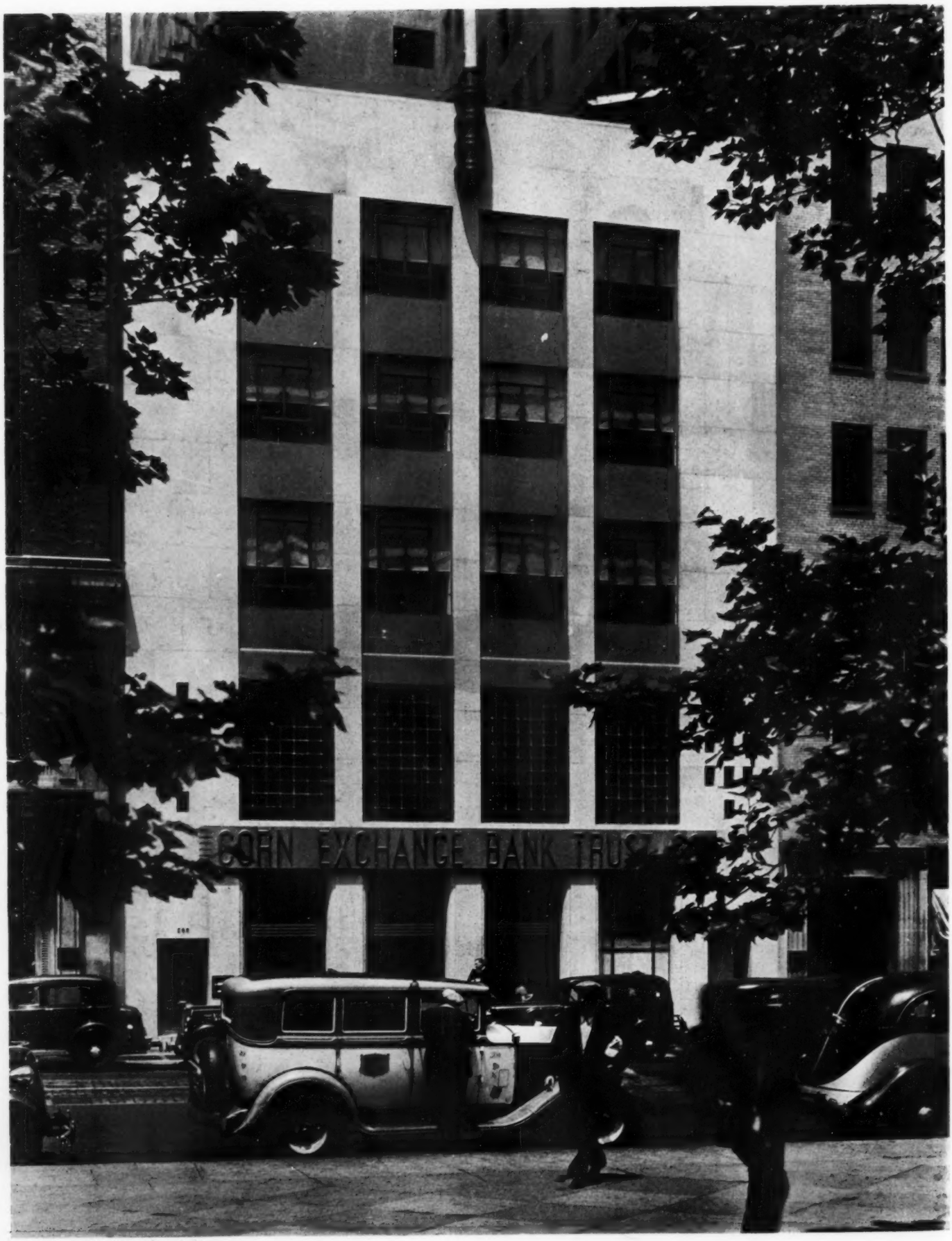
These changes in the type of use are only part of the changes. An additional 12 of the 380 candy and confectionery stores changed hands while still operating as the same type of retail outlet.

"This should be a good place for a grocery store." "There is a good corner for a drug store." "There certainly must be sufficient families in that neighborhood to support a hardware store." All such expressions are used with little realization of the true significance of the words. If this is not a good place for a grocery store, the grocer's own investment is lost, if not his creditors' merchandise, as well. Suppose this is not a good corner for a drug store, what then? Perhaps the neighborhood will support a hardware store.

STORES
AND OTHER
COMMERCIAL BUILDINGS

5-8-36

JOHN · PARKINSON · & · DONALD · B · PARKINSON — ARCHITECTS



Photograph by George Van Anda

B A N K
BUILDINGS

Photograph by George Van Anda

FELLHEIMER AND WAGNER
ARCHITECTS

CORN EXCHANGE BANK TRUST CO. WASHINGTON BRANCH NEW YORK CITY

Modernization of this building (right) into quarters suitable for the branch needs of a metropolitan bank presented a number of problems. Only two months were available for the conversion; costs had to be held to a minimum; and the structure itself imposed definite limitations on replanning. The building was originally divided by a load-bearing masonry wall. This wall had at different times been removed — first on the ground floor, then on the second and finally altogether. At each stage the wall was replaced by a steel pier-and-lintel construction; but at each stage, the steel construction merely *rested on* the steel of the floor below. Thus the architects were unable to touch the steel work without complete reconstruction. The three limitations were met: The building was finished within the required time limit; the cost was held within estimates, and the replanning achieved without major structural changes.

Photograph by Louis Dreyer

THE BUILDING BEFORE REMODELING

Photographs by George Van Anda

The trust company desired that the front portion of the public banking space be two stories high. Since it was impossible to change the structural skeleton of the building, the architects frankly left it, removing the floor and refinishing the gutted portion. Glass brick, carried in aluminum muntins, fills the front wall above door-height. A light, airy and simple interior results.

WASHINGTON BRANCH

CORN EXCHANGE

FELLHEIMER
AND WAGNER
ARCHITECTS

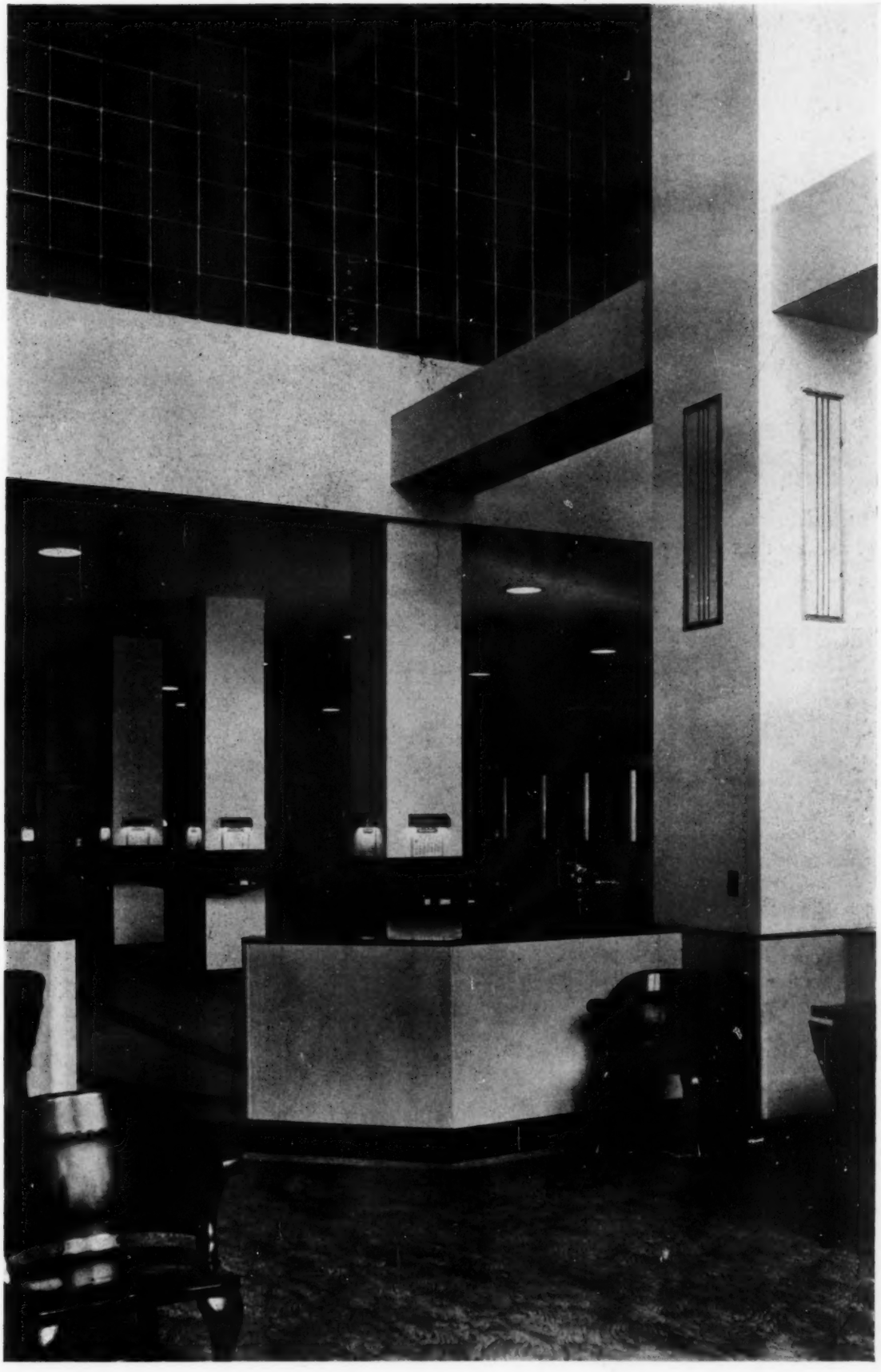
BANK TRUST CO. **NEW YORK CITY**

Photographs by George Van Anda

WASHINGTON BRANCH

CORN EXCHANGE

FELLHEIMER
AND WAGNER
ARCHITECTS



BANK TRUST CO. NEW YORK CITY

BANK BUILDINGS

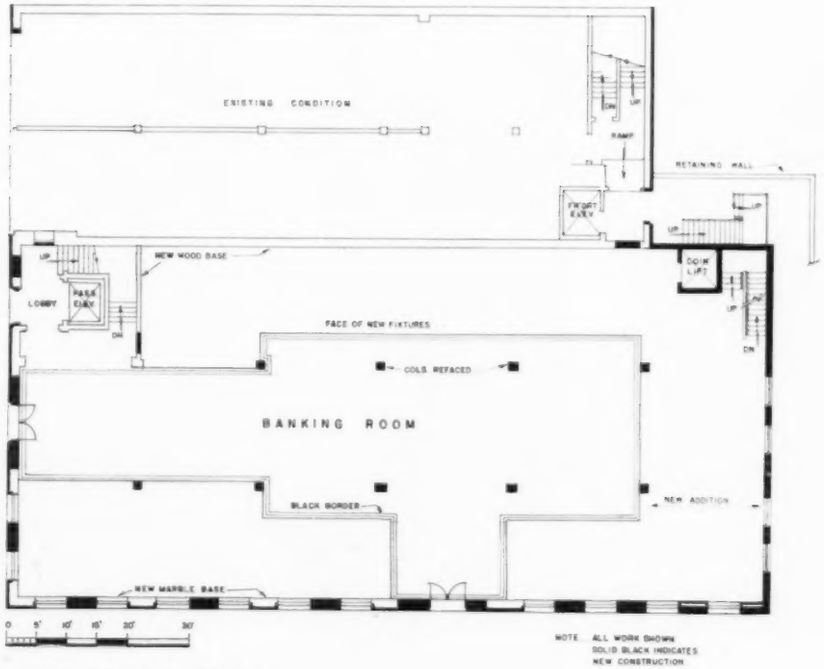
Photograph by Mott Studios

JOHN AND DONALD B. PARKINSON
ARCHITECTS

SECURITY-FIRST NATIONAL BANK — LOS ANGELES, CALIFORNIA

The original building, 100′ x 105′, was built approximately thirty-five years ago. Exterior walls: brick, plaster finish; interior construction: wood, including the wood truss roof. The twenty-foot addition on the rear follows the construction of the old building very closely, except for the earthquake bracing which is a code requirement.

The plaster was removed and the new terra cotta and the exterior facing were applied. The terra cotta facing blocks are 15″ square and approximately 1½″ thick. The spandrels are 6″ x 6″ tile, matching the terra cotta in color. Black glass was used for the base and steel sash used throughout. The exterior doors and frames are hollow metal. The basement, first and second floors are used for banking purposes.



FIRST FLOOR PLAN

Photograph by Stadler

ALBERT KAHN, Inc.
ARCHITECTS AND
ENGINEERS

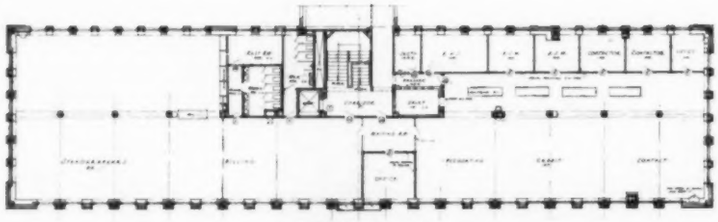
OFFICE BUILDING FOR THE UPJOHN COMPANY
KALAMAZOO, MICHIGAN

OFFICE BUILDINGS

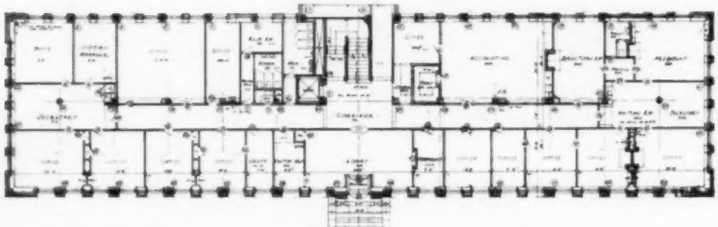
Photograph by Slocum Brothers

ALBERT KAHN, INC.
ARCHITECTS AND
ENGINEERS

OFFICE BUILDING FOR THE UPJOHN CHEMICAL COMPANY KALAMAZOO, MICHIGAN



SECOND FLOOR PLAN

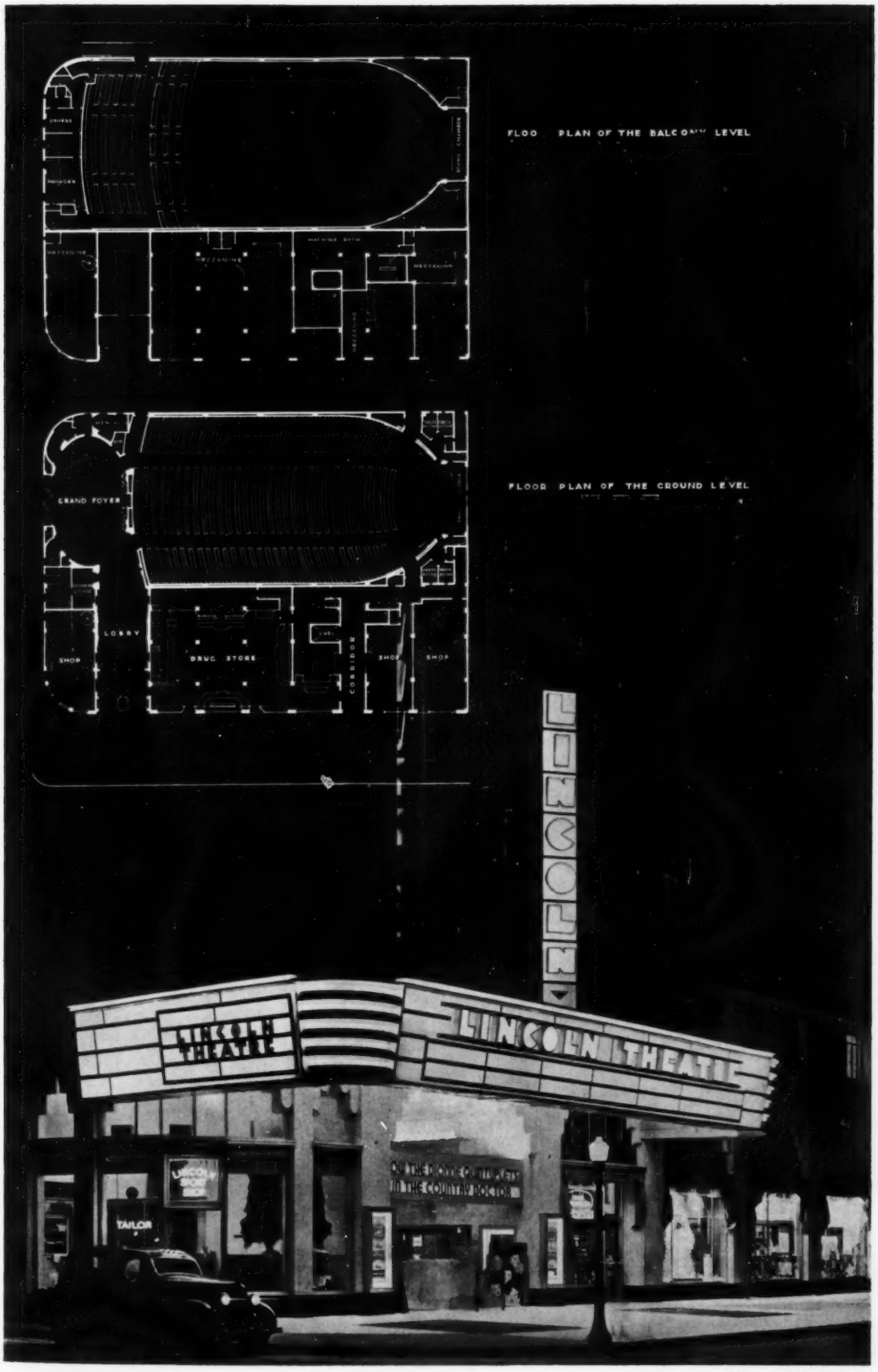


FIRST FLOOR PLAN

This office building is the first completed unit of the rebuilding program of the Upjohn Company, manufacturer of pharmaceutical supplies. A portion of the six-story manufacturing building directly back of the office is practically complete; as soon as this is occupied, the balance of the plant is to be rebuilt.

The building, which is 208 ft. by 54 ft. and three stories high above basement, is of reinforced concrete construction with limestone facing. Artificial granite is used for main entrance and window spandrels. The window frames and trim around entrance are of aluminum. Limestone work has a carborundum rubbed surface treated with "Porseal," a colorless filler which has proven efficient in keeping the stonework free from weather stains.

In the interior, rubber tile floors and acoustically treated ceilings throughout make for quiet. A mechanical ventilating and air-conditioning system has been provided for the entire building. Office partitions in general are of metal and glass.



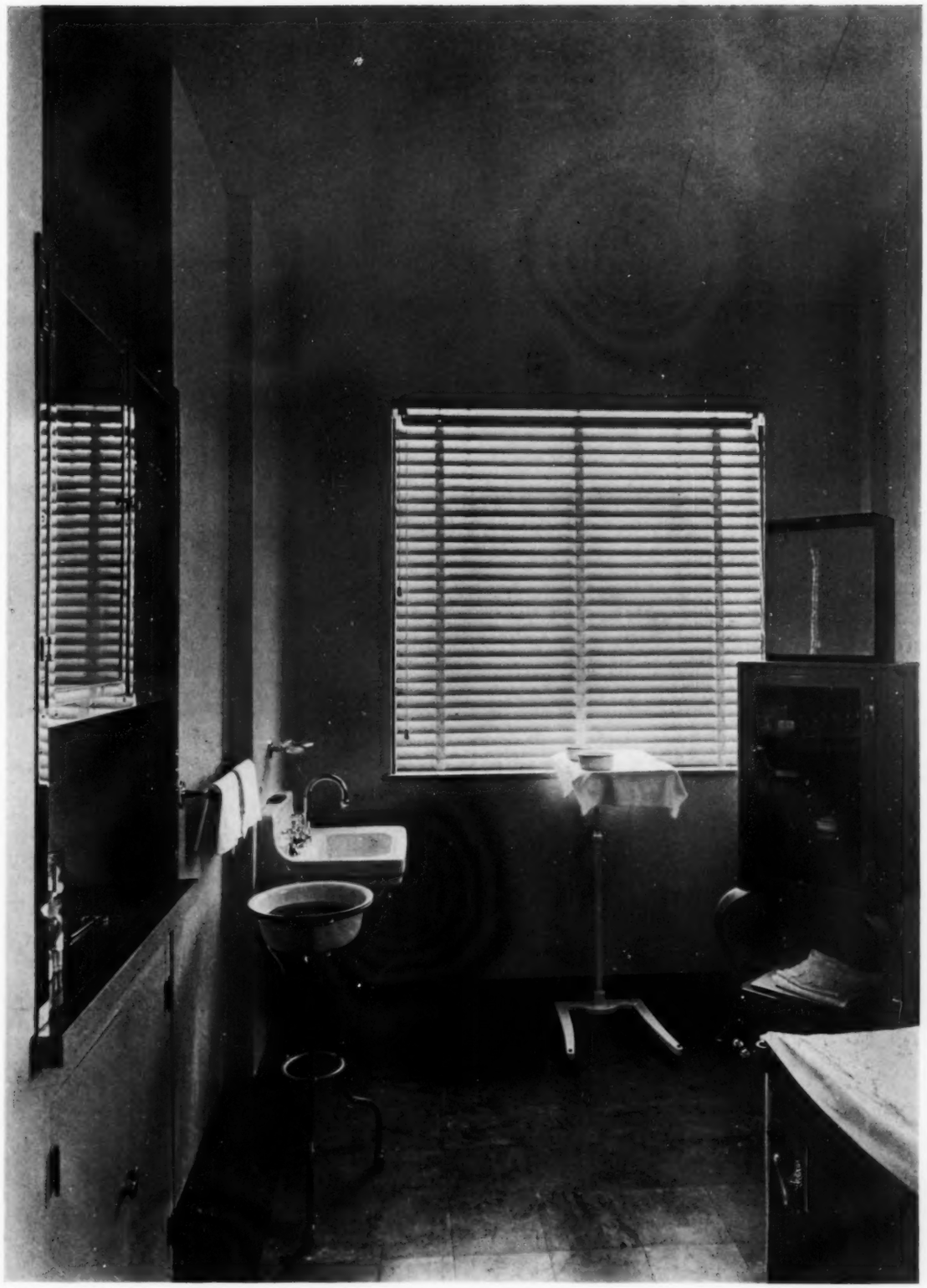
Photograph by Gottscho

HERBERT E. COLLINS
ARCHITECT
THOMAS W. LAMB
CONSULTING
ARCHITECT

LINCOLN THEATRE BUILDING — MIAMI BEACH, FLORIDA

LINCOLN THEATRE BUILDING

HERBERT E. COLLINS
ARCHITECT
THOMAS W. LAMB
CONSULTING
ARCHITECT



Photograph by Gottscho

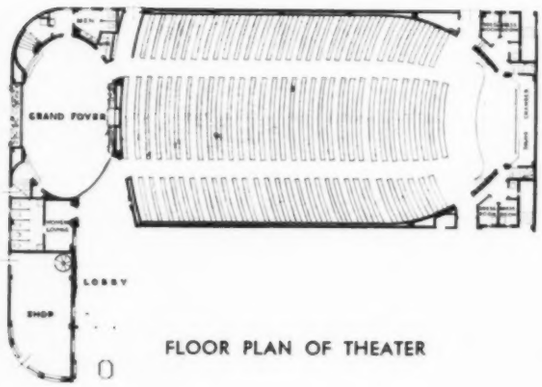
MIAMI BEACH, FLORIDA

THEATER AND OFFICE BUILDINGS

Photograph by Gottscho

HERBERT E. COLLINS
ARCHITECT
THOMAS W. LAMB
CONSULTING
ARCHITECT

LINCOLN THEATRE BUILDING — MIAMI BEACH, FLORIDA



FLOOR PLAN OF THEATER

Photograph by Hedrich-Blessing

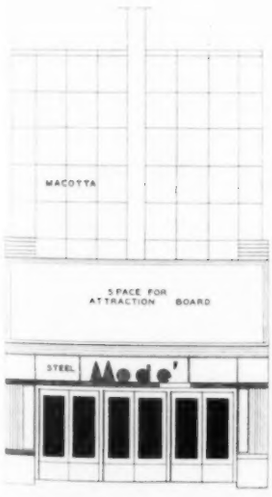
B. LEO STEIF AND COMPANY
ARCHITECTS

MODÉ THEATER BUILDING — CHICAGO, ILLINOIS

This 25-year-old theater-and-store group in suburban Chicago was converted into a commercially successful project by a remodeling job. The work, largely consisting of "face-lifting" the exterior, was executed at a total cost of $30,000. This included the redecoration of the theater lobby and auditorium and the installation of new lighting throughout.

The theater exterior, foyer, base of store fronts, and side wall of the store building, were laid up in maroon Macotta trimmed in black with stainless steel edging around blocks and a black mastic used for joints.

The rest of the exterior of the store building with the exception of the coping, which was stainless steel Macotta, was laid up in black Carrara. The tower of the theater is laid up in cream colored Macotta with cream colored joints, which, contrasted with the black vertical sign of the theater, makes a very effective display. At night the tower is floodlighted and, as contrasted with the red Neon tubing of the sign, gives a transparent effect similar to glass.



FRONT ELEVATION: An interesting solution of sign and marquee results from a Chicago ordinance prohibiting any sign or marquee from overhanging the sidewalk. In this instance the sign was recessed and supported by an ornamental tower, while the doors to the lobby were moved back 12 feet.

FLOOR PLAN

AS IT WAS: A view of the block before remodeling, showing the 1910 baroque of the original building.

APARTMENT AND STORE BUILDINGS

Photograph by Van Anda

SCOTT AND PRESCOTT
ARCHITECTS

STORE AND APARTMENT GROUP — NEW YORK CITY

Another of the new "taxpayer" type of project so increasingly popular in the larger cities, this combination store and apartment group is purposely low in height for maximum light and air, designed to produce the maximum income with the minimum initial capital investment and lowest maintenance cost.

The stores run the entire depth of the structure, windows being kept high in back to protect the privacy of the court. The show windows, entrances, etc., were designed for the tenants' different requirements.

Occupying a tract 308 feet long in the interior of the block, the layout is such that the dwelling section is isolated from the stores. This separation is achieved by means of an apartment entrance through the center arcade, which extends back to a garden. All stairs open off the arcade. The apartments—from 1 to 3½ rooms—thus enjoy cross ventilation; half of them overlook the interior court and are away from the street.

The construction is semi-fireproof with brown brick and yellow stone trim. Fire escapes are counterbalanced and cleverly concealed in the cantilevered balconies over the shop fronts.

Photograph by George Van Anda

DESIGNED BY
LOUIS C. SIGLOCH
ARCHITECT

EXECUTIVE OFFICES, JOHNS-MANVILLE CORPORATION — NEW YORK CITY

OFFICE NO. 1

The walls are composed of 7/16" Transite hung on embossed steel studs with concealed fastenings. The finish of the walls is Vinylite lacquer, put on after Transite in the walls had been oil-impregnated. In this particular office, the walls are of a dark brown with chrome beads separating the panels, and white Venetian blinds. The cornice mouldings are of walnut and the ceiling is a Sanacoustic Tile, glazed to harmonize with the walls. The radiator enclosure, the grilles in the base and top, are made of 3/4" Transite. The furniture is walnut with Maccar-Ebony tops on the table and the desk. There is fabric upholstering on the chairs.

OFFICE NO. 2

EXECUTIVE OFFICES, JOHNS-MANVILLE CORPORATION

These walls are finished in a light green Vinylite lacquer, with chrome vertical beads and walnut beads horizontally. The cornice is walnut and the ceiling is an acoustical Perforated Transite. At the window reveals, a wood mould has been formed as a pocket for the drapes, and this mould has been silvered. The casement curtains are an ecru shade and the drapes are blue. The rug is a grey toufe rug with black border, and the furniture is of walnut. Here, again, the radiator enclosure is made of Transite, and the upholstering of the chairs is a very light cream leather.

DESIGNED BY
LOUIS C. SIGLOCH
ARCHITECT

OFFICE NO. 3

Photographs by George Van Anda

NEW YORK CITY

This office is finished in a Vinylite lacquer, with the exception that the dado has been colored a dark amber, and the upper walls are a buff putty color finish. The air conditioning grille at the top has been cut out of the Transite wall material. The beads in this room are of brass. The cornice is walnut; ceiling, Sanacoustic Tile glazed to harmonize with the walls. The furniture has been covered with dark brown leather, and the top of the table is bird's-eye maple. The door is a flush wood veneer door walnut. The carpet is a light grey with a darker shade for the border.

DOCTOR'S OFFICES

Photograph by Hedrich-Blessing

DESIGNED BY
LOEBL AND SCHLOSSMAN
ARCHITECTS

OFFICE OF DR. GREENHILL **CHICAGO, ILLINOIS**

Photograph by Luckhaus Studio

DESIGNED BY
J. R. DAVIDSON

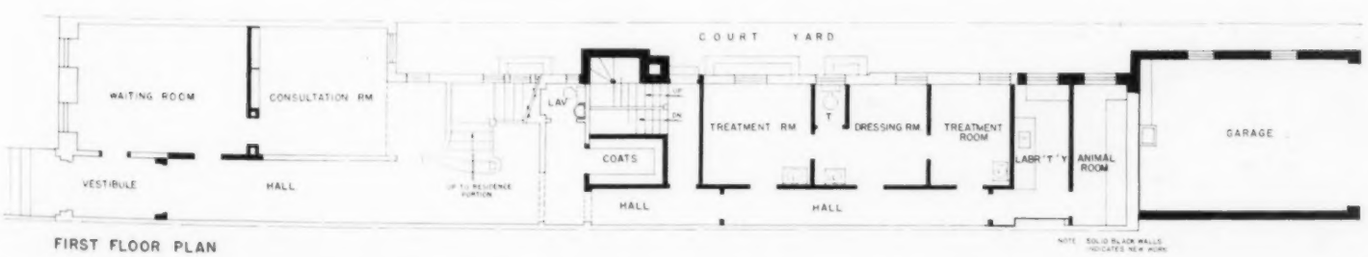
DESK IN A DOCTOR'S CONSULTATION ROOM

DESIGNED BY
NORMAN N. RICE

OFFICE OF DR. S. LEON ISRAEL — PHILADELPHIA, PENNA.

An old 3½-story row-house has here been converted into a modern office and residence. The original building, while structurally sound, was obsolete as to equipment. In reconstruction, the entire interior was renovated; new plumbing and heating systems were installed, while a new garage was added at the rear.

The plan indicates the designer's clean approach to a difficult problem. Waiting and consultation rooms occupy what was formerly the front parlor. Since it was necessary to leave the main stairs to the upper floors, the treatment and dressing rooms are placed beyond the stairs. Laboratory and animal room (for experimental work) are placed at the extreme rear.



FIRST FLOOR PLAN

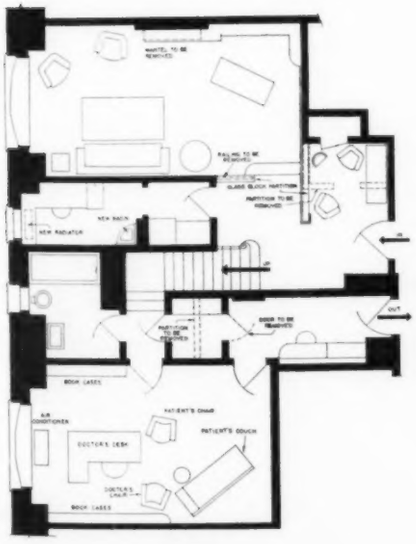
DOCTOR'S
OFFICES

DESIGNED BY
NORMAN N. RICE

OFFICE OF DR. S. LEON ISRAEL — PHILADELPHIA, PENNA.

The interiors of the forward portion of the office are simply but handsomely equipped. All furnishings are modern. The walls are partly sheathed in wood veneer panels, partly canvas-covered plaster with stippled finish. Walls and ceiling of consultation room (above) are in buff; carpeting in dark maroon; furniture in walnut with yellow leather upholstery.

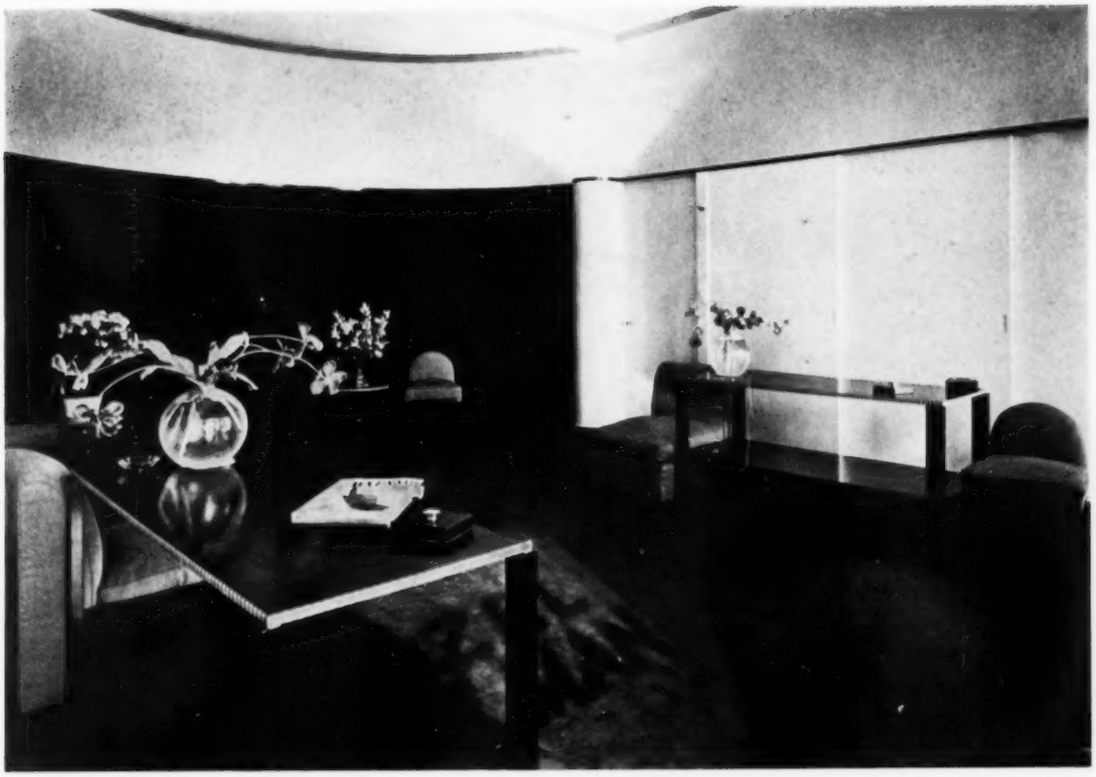
OFFICE OF DR. PHILIP R. LEHRMAN NEW YORK CITY



The problem here was that of converting a suite of offices into one suitable for the practice of psychiatrist; both plan and equipment were determined by this requirement. The doctor's office is so designed that the patient, whose examination takes place while lying in a perfectly relaxed position on the couch, faces bare walls on which there is nothing to distract his attention from the conversation. During the examination the doctor sits behind the patient so that he can watch the facial expression without being seen. The couch, shown in the plan (lower left), does not appear in the photographs.

OFFICE OF DR. PHILIP R. LEHRMAN — NEW YORK CITY

Simple equipment, absence of distracting pattern and use of quiet colors characterize this suite. The waiting room (above) has a chocolate carpet, beige and coral draperies, soft yellow walls; the fabric covered chairs are in a soft gray-green and coral. The tables are of mahogany and copper. In the doctor's office, the color scheme is as follows: Desk and cabinets—mahogany and walnut. Acoustical cork has been applied in parts of the walls for sound deadening. This cork is left in its natural chocolate color. The carpet matches the cork. The curtains and upholstery are of harmonizing tones of brown with a small amount of green.



ELY JACQUES KAHN
ARCHITECT

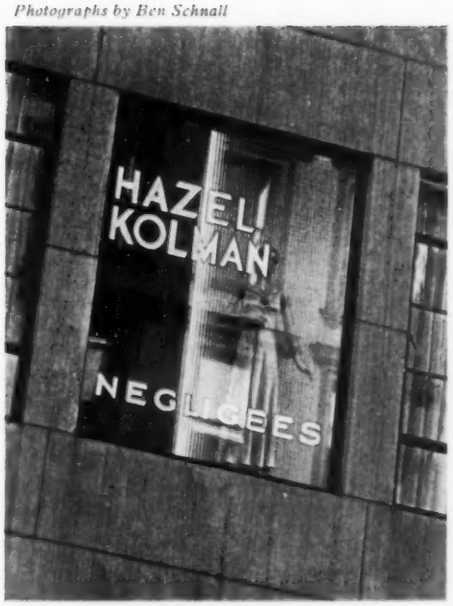
SHOWROOM FOR HAZEL KOLMAN

NEW YORK CITY

A specialty shop on a mezzanine floor, combining sales, fitting and work space. The showroom has a black carpet and black curtains, with rose walls and ceiling. Furniture is of walnut and chromium, with darker rose fabrics on the chairs. Lighting is indirect.

FLOOR PLAN

Photographs by Ben Schnall



EXTERIOR OF SHOW WINDOW

DEPARTMENT STORES

Photograph by Underwood & Underwood

STARRETT AND VAN VLECK
ARCHITECTS
EDWARD & ASHLEY
CONSULTING ENGINEERS
CHARLES SWANSON
FIXTURE DESIGNER

BUILDING FOR J. N. ADAM & CO. BUFFALO, NEW YORK

For forty-five years the Adam Company has occupied this site; during that period the four buildings which have been reconstructed into one were acquired. This reconstruction involved modernization of part of the structure, complete rebuilding of another part, while some of it was left unchanged except for façade. The remodeling involved a complete replanning of floor arrangements, based on careful traffic analyses. The location of the elevator was shifted from the rear to the center of the structure. New lighting was installed throughout, together with a new sprinkling system and provisions for complete air-conditioning. The exterior of the building is notable for its simplicity and use of color—a black granite base, yellow Kasota stone to the third story windows, buff and tan brick above. The show windows are faced with blue pearl granite; all windows are bright aluminum.

BEFORE RECONSTRUCTION

Photograph by George Van Anda

KENNETH C. WELCH
ARCHITECT

JOHN WANAMAKER MEN'S STORE — NEW YORK CITY

The remodeled Men's Store is part of an extensive program now going on in the New York department store.

The Men's Clothing, Made-to-Measure and London Shop section occupy practically the same general locations as before but the layout and general arrangement is entirely different. Heretofore the men's clothing, due to the lack of sufficient and unbroken wall space, was carried entirely in floor revolving cases, and with increasing volume the great majority of the overcoat stock was carried on open racks. This arrangement created badly congested aisles, making adequate control difficult. The new arrangement provides some 1,900 lineal feet of hangrod space; but only 38% of it on the open floor, largely in low single deck revolving cases. The remaining 62% is located in four "customers" stock rooms, one for the London Shop, one for Formal Wear, one large unit for regular clothing and one for chauffeurs' uniforms. These stockrooms successfully used in the John Wanamaker Men's Store in Philadelphia have generous aisles, are unusually well lighted and ventilated, and in the larger units are even equipped with triplicate mirrors. An interesting fact is that these stockrooms, carrying as they do the majority of the stock when it is at a peak, occupy only 17% of the net available area in these sections. This makes possible generous aisle spaces with furniture groupings which add greatly to the impressiveness of the floor. There are thirty indirectly lighted triplicate mirrors in addition to many straight mirrors throughout these sections.

The men's furnishings, hats, shoes, and the clothing portion of the sporting goods department occupy approximately the same locations as they did heretofore, with the exception of the shoe department, which was moved from the extreme southwest corner adjacent to the best entrance in this building, to a space along the south wall. This permitted utilization of the good traffic space for the sale of pajamas and underwear, neckwear, gloves. By far the greater number of customers using this entrance are women on their way to the North Building, and it was felt desirable to route them through this department, rather than by way of the

JOHN WANAMAKER MEN'S STORE

Photographs by George Van Anda

men's shoe department. It was necessary to considerably reduce the area devoted to men's furnishings, in order to add the sporting goods on this floor. This was accomplished by the use of modern equipment for stock carrying and selling and also the use of forward stock rooms adjacent to the various sections, and as easily accessible to the sales space as though the merchandise had been carried in the usual manner.

In the men's furnishings and hats approximately 800 sq. ft. of area are devoted to these stock rooms in four groups. In the men's furnishings, including the furnishings in the London Shop, there are over 1,000 ft. of showcases, practically all one length with comparatively shallow displays (except at the corners), and space for stock below. This not only eliminates waste space, and gives the merchandise a neat and orderly appearance, but creates a flexible floor for seasonal shifts of merchandise. The same holds true of the center and wall stock carrying equipment. The great majority of the cases are the same length, and are easily interchanged if different equipment is required.

KENNETH C. WELCH
ARCHITECT

NEW YORK CITY

The shoe department in its location has the advantage of four important cross vistas leading up to it, and while it contacts the main flow of traffic only at one end, it is easily visible from the greater portion of this end of the floor. The illuminated decorative treatment which has been used, and which will be discussed later, is a great advantage from this standpoint.

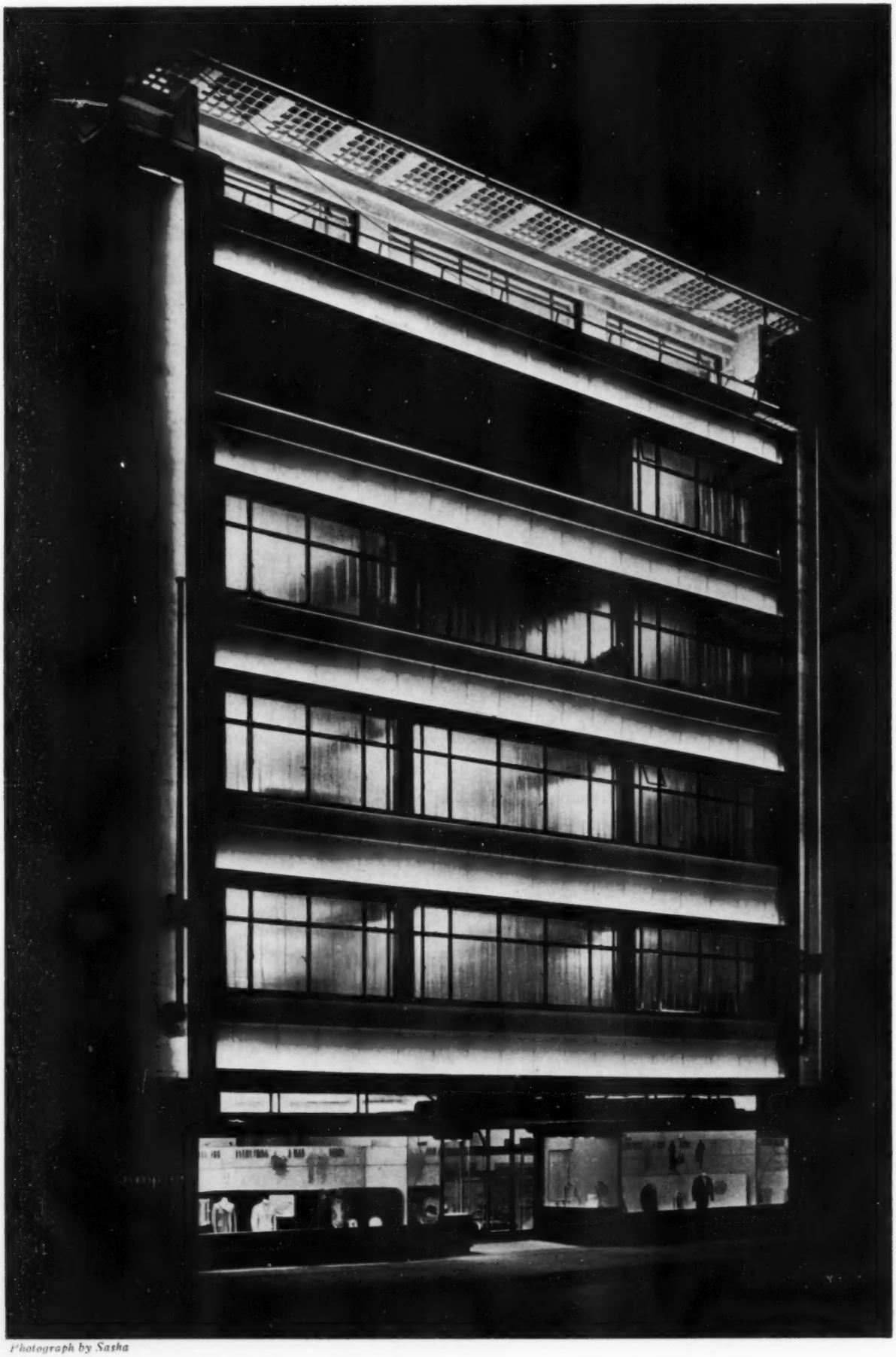
Another interesting note is the concentration at one point of all the formal furnishings, including shirts, collars, neckwear, and jewelry, with a convenient forward stockroom behind it.

The rotunda itself, in the center of the floor, is devoted to sporting goods, fishing tackle, guns, tennis, golf, and athletic equipment of all kinds. The old grand staircase, which led to the mezzanine, and which was largely blocked off when the center elevators were installed several years ago, has been changed, and brought down into the center of the rotunda. The stairways previously leading to the basement at this point have been eliminated, so that this narrow area, formerly a passage, could be devoted to stockroom space.

DECORATIVE TREATMENT

The color selected for the general scheme was a soft brown, starting with the selected pin grain oak, but light in tone, on the exterior of the fixtures, carrying through a continually lighter range of tone basically the same color up the columns and over to the walls, which are the lightest tone, with the exception of the illuminated superstructure and ceiling, which are white. The interior of the cases and most displays are a pin grain oak finished with a white filler, making them very light in contrast to the exterior of the fixtures.

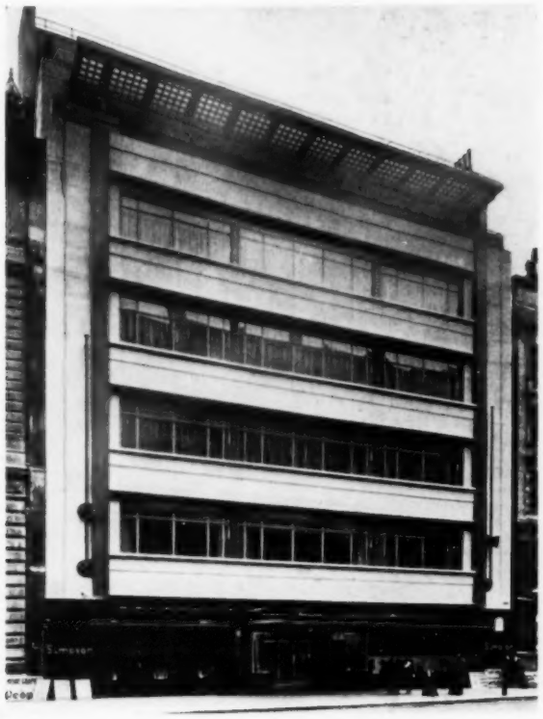
Where it does not interfere with the merchandise, other colors have been introduced to add interest. The bases of all the equipment are done in terra cotta color, which makes an interesting junction with the travertine marble floor. This same color has been recalled on the edges of the silhouetted signs and in the upholstering leather on some of the furniture. A soft blue green has been introduced in the furniture in the shoe department and to emphasize the elevator fronts and entrance doors.



Photograph by Sasha

DEPARTMENT STORES

Photographs by Herbert Fenton



ELEVATION ON PICCADILLY

ELEVATION ON JERMYN STREET

STORE FOR MESSRS. SIMPSON PICCADILLY, LONDON

JOSEPH EMBERTON
F.R.I.B.A.

(*Extracted from* THE ARCHITECT AND BUILDING NEWS, *London, May* 8, 1936)

Piccadilly has grown from a street of private palaces, through a phase of hotels and museums to its present condition as a great shopping thoroughfare. Its architecture up to now has always hankered after the palace period, and latterly the palaces themselves have been outdone, not merely in size but in grandiosity, by the commercial buildings. The Wolseley Building, Devonshire House and the new block at the corner of Sackville Street are all richly academic, and Simpson's is the first building to state in modern terms the modern purpose of the street. It sets a high standard.

Compared with Mr. Emberton's earlier buildings, Simpson's is definitely more mature and shows a surer handling of materials. The façade towards Piccadilly, for all its simplicity, is packed with ingenuity. The management of the floodlighting troughs argues a recognition of lighting as an essential component of modern architectural style, while the Portland stone facing (the material was prescribed by the landlords) is applied in a way which leaves no doubt as to its purpose; it is merely a veneer, and suggests no association with solid walling. With the aid of black marble and metal, the shop windows are given the sharp refinement which makes for successful display, while internally the open planning and the varied and original, but always strictly appropriate, design of the fittings places Simpson's among the most interesting buildings of its type.

THE SITE.—The building occupies the full depth of the site between Piccadilly and Jermyn Street, having a shop front to each street.

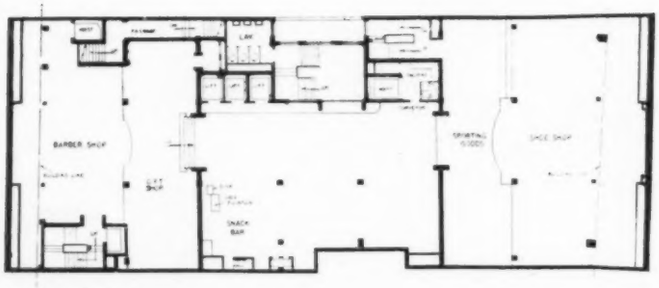
Considerable difficulty was experienced in designing the foundations owing to those of the adjoining buildings on each side projecting. In one case a raft foundation to the new building transmits a load of about 3,500 tons to the soil—a load which is not surprising considering that the overall height of the building, including the basement and the mechanical equipment rooms on the roof, is about 130 feet.

PLAN.—For the purposes of fire regulations the rectangular site has been divided into three blocks vertically from the ground floor up. The Piccadilly and Jermyn Street blocks are about 42 feet deep each, with a separate fire escape staircase; the central block has the main staircase as its means of escape. These blocks

Photographs by Larkin Brothers

GENERAL VIEW OF THE GROUND FLOOR

STORE FOR MESSRS. SIMPSON



LOWER GROUND PLAN

are divided by 13½-inch brick walls and double fire shutters to the openings from one block to the other, the opening consisting of a 10-foot one on the main axis of the building and a 24-foot opening, one either side of the central space.

This arrangement, while allowing complete and free access from one block to the other, readily permits the allocation of different departments in a convenient manner. Below ground floor level the lower ground and basement levels are each considered as a horizontal fire unit, so that the staircases down to these floors are cut off by glazed fireproof doors. The basement escape provisions include a special corridor of minimum width,

JOSEPH EMBERTON
ARCHITECT

OUTFITTING DEPARTMENT ON GROUND FLOOR

PICCADILLY, LONDON

4 feet 6 inches, leading through to Jermyn Street. As is usual in shops of this size, the lift enclosures are also protected at each floor level with fire shutters, which roll down over the entrance gates in event of a fire.

CONSTRUCTION (GENERAL). — The general construction consists of brickwork panels, supported by a steel frame, with all complicated portions of the steelwork electrically welded, this being one of the first buildings in London where electric welding has been used so extensively for the main structure.

FLOORS. — Hollow tile floors are used throughout

Photograph by Larkin Brothers

EVENING DRESS WEAR DEPARTMENT

STORE FOR MESSRS. SIMPSON

TYPICAL FLOOR PLAN

with a pumice screed, 3 to 4 inches deep above to make up the levels and allow pipe ducts to be formed. The ceilings were plastered on suspended metal lathing, the space between the structural slab and the lathing permitting easy allocation of sprinkler pipes and points. In most cases the depth of the floor from finished level to underside of plaster work is about 1 foot 9¼ inches. On the ground floor, travertine slabs 2 feet by 2 feet by 1 inch thick have been used throughout as a paving, and white polished travertine slabs 7 feet in height have been used as a wall facing near the lifts and other side walls.

Elsewhere in the building within the shopping areas

JOSEPH EMBERTON
ARCHITECT

Photograph by Studio Sun, Ltd.

DRESS WEAR DEPARTMENT

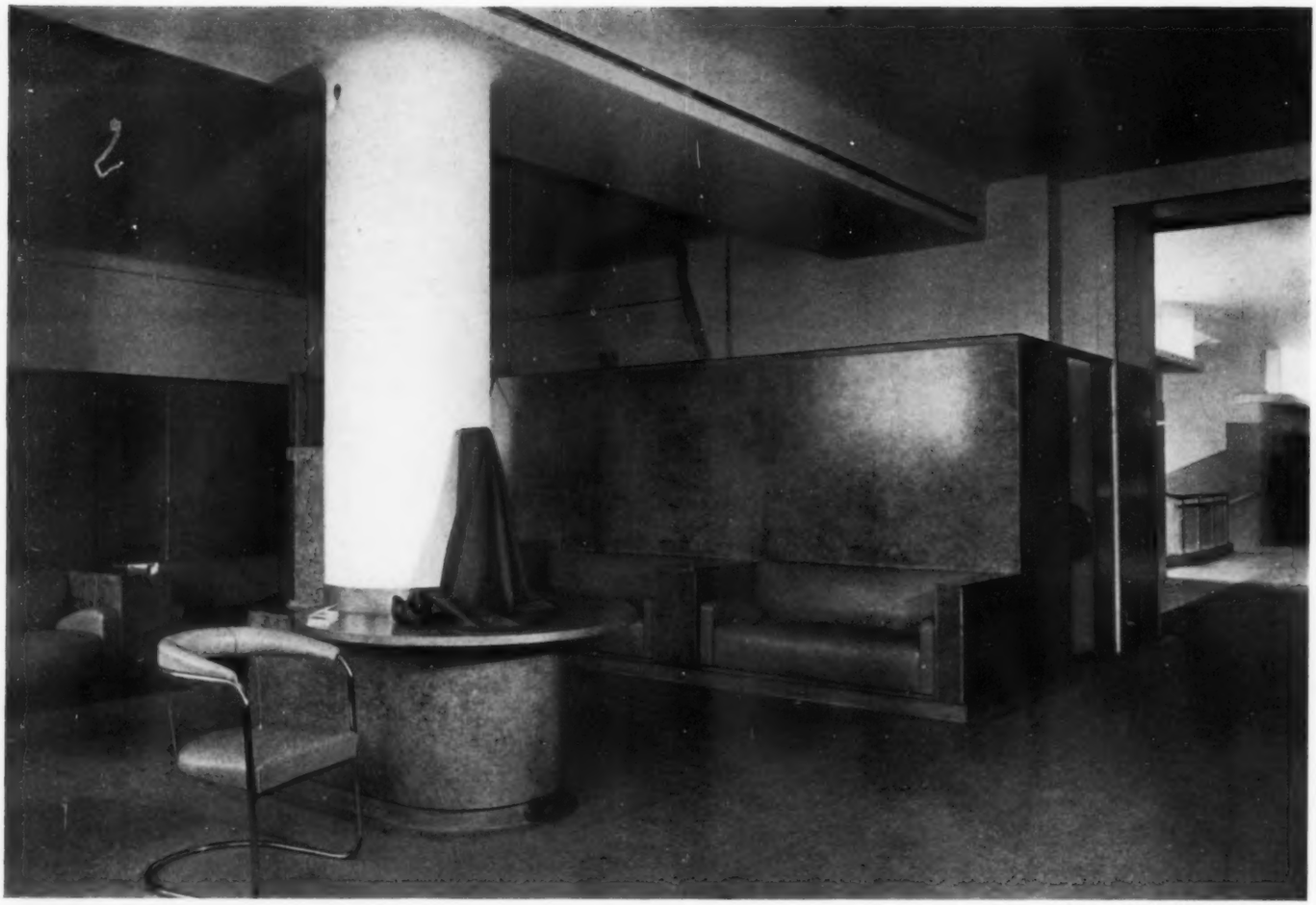
PICCADILLY, LONDON

2 feet square cork tiles have been used as a floor covering.

STAIRCASE. — The main staircase is most attractively designed. Travertine facings have been used for the treads and risers, which are 13 inches and 5½ inches, respectively, thus making for extreme ease in use. Plate-glass balustrading, secured by anodized aluminum balusters at intervals, and surmounted by an orange vermilion circular handrail, make a most inviting appeal to the eye. Again, the artificial lighting is effected by a single aluminum-faced rod suspended down the center of the staircase well, with globular lamps spaced to suit the various floor levels. This pen-

Photograph by Herbert Fenton

THE GIFT SHOP



Photograph by Studio Sun, Ltd.

TAILORING DEPARTMENT

STORE FOR MESSRS. SIMPSON

Photograph by Hervert Fenton

THE SPORTS SHOP

dant fitting slides on a track at the top, so that the whole fitting can be brought in against the balustrading at floor level, to enable lamps to be cleaned or renewed. Perhaps much of the attraction in the staircase comes from the excellent daytime lighting afforded by the main external wall which is entirely of glascrete tiles.

LIGHTING. — A transformer room is provided in the basement in connection with the lighting and power of this building. Small switch-rooms occur at each floor level for local control, while a main switch-room is situated in the basement.

The general scheme is one of concealed lighting in the

JOSEPH EMBERTON
ARCHITECT

Photograph by Larkin Brothers

OVERCOAT AND RAINCOAT DEPARTMENT

PICCADILLY, LONDON

cornices, with large circular indirect lighting fittings where more light is required.

Specially insulated junction boxes in the floors permitted the inclusion of telephone service wires, with the lighting circuits in the same ducts—an arrangement not possible when the usual method of designing these services is employed.

Externally, neon lighting forms an important feature of the façade. Here, continuous bronze reflector troughs carry across the building above the head of each line of windows. These troughs, which are drained to the sides, house three neon tubes of different colors.

Photograph by Herbert Fenton

THE SHOE SHOP

Photographs by Herbert Fenton

THE CLUB ROOM

STORE FOR MESSRS. SIMPSON

THE BARBER SHOP

This trough system continues up each side of the façade to form a frame. In this way striking lighting effects of various colors can be obtained, lending great charm to the building by night.

VENTILATION.—The general scheme of ventilation consists of conditioned air forced into the different floors through continuous gratings just below the soffit of the outer main beams.

HEATING AND HOT WATER.—Heating panels in the ceilings provide for the main warming of the building, although this is augmented by heating the air in the ventilating system before its introduction to the building through the duct gratings.

DEPARTMENT
STORES

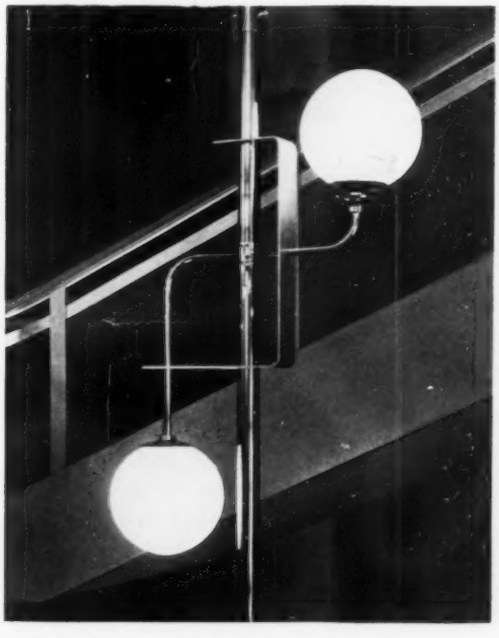
Photograph by Studio Sun, Ltd.

THE MAIN STAIRCASE

PICCADILLY, LONDON

JOSEPH EMBERTON
ARCHITECT

Photograph by Larkin Bros.



DETAIL: Lighting Fixture at Main Stair

Although storage space for the main bulk of the goods has been allocated in the basement, the architect has contrived to provide small rooms immediately behind the counter for the storing of spare stock, though the provision is not apparent to the casual observer.

DISPLAY FITTINGS.—There is much that is novel and ingenious in the design of the many display fittings, while the genius of Prof. Moholy-Nagy presides over the disposition of the merchandise itself. The fittings are mainly built up from veneered plywood, and full advantage has been taken of the range of color and texture effects possible in this material.

DEPARTMENT
STORES

Photograph by Don Milton

JOHN AND DONALD
B. PARKINSON
ARCHITECTS

W. & J. SLOANE

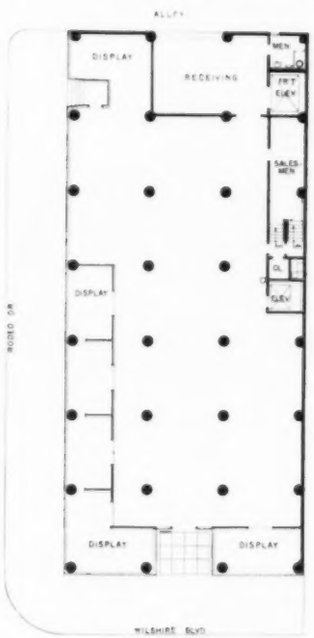
BEVERLY HILLS, CALIFORNIA

Especially designed for the requirements of the tenants, this new building is noteworthy for its general simplicity of design and its frank treatment of the first-floor columns and show windows.

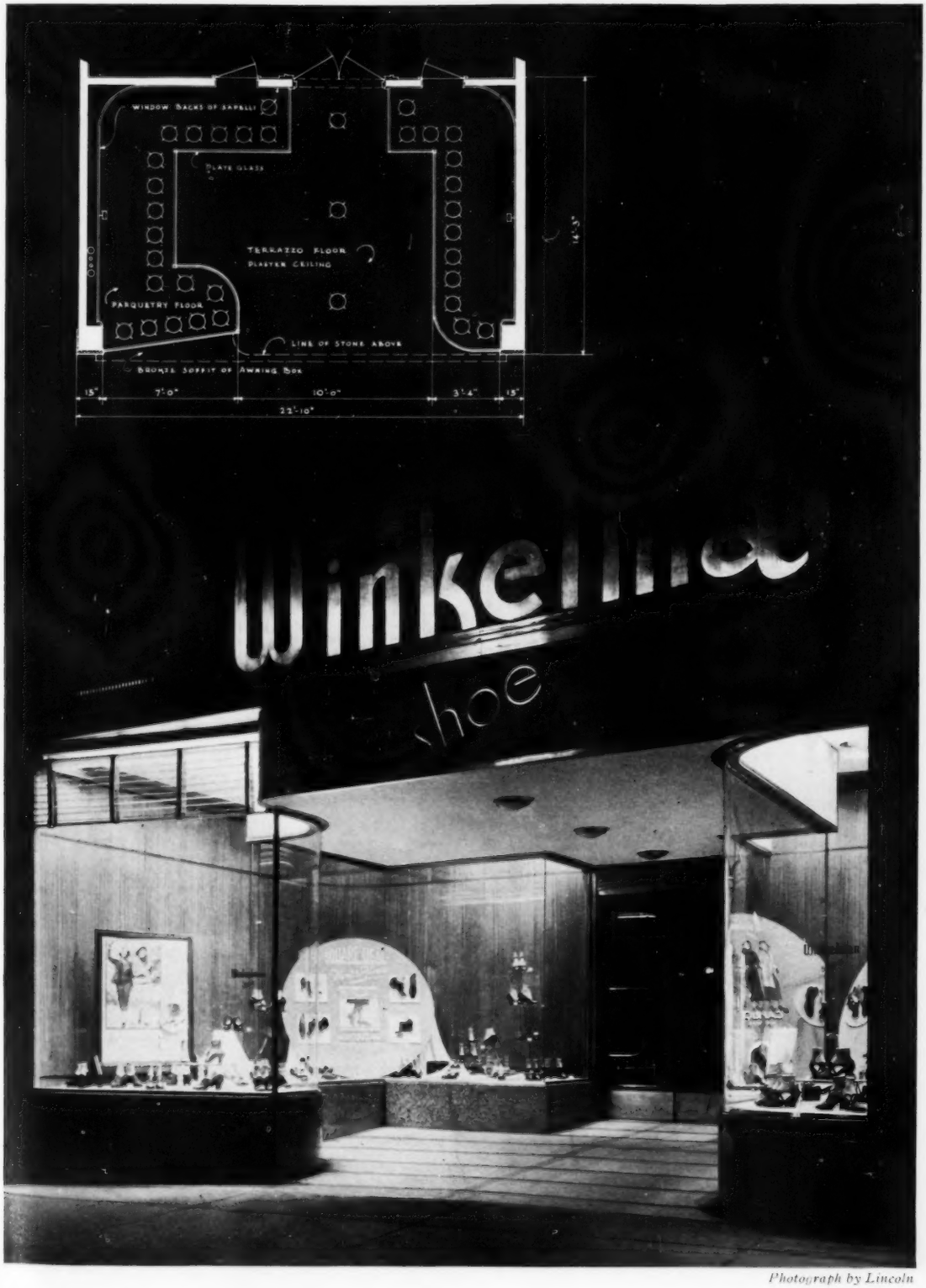
The building is 65′ x 130′, with basement containing the heating and other mechanical equipment. The first floor is used for display, with a small shipping room at the rear. The second, third, fourth and fifth floors are used for display, with the bookkeeping and private offices on the fifth floor.

The building is of fireproof construction, consisting of concrete columns and flat slab floors. The required earthquake stresses were applied laterally at each floor. Foundations consist of 36″ bell-bottom caissons which extend thirty feet below the sidewalk level. The exterior walls are concrete with plaster finish on the street fronts. The base on the exterior is black glass and the metalwork aluminum. Steel sash throughout.

The interior partitions are pressed metal channels, metal lath and plaster. The floors are all cement, except the second, which is oak laid on wood sleepers.



GROUND FLOOR PLAN



Photograph by Lincoln

DESIGNED BY
SOLOMON KAPLAN

WINKELMAN SHOE STORE — NEW YORK CITY

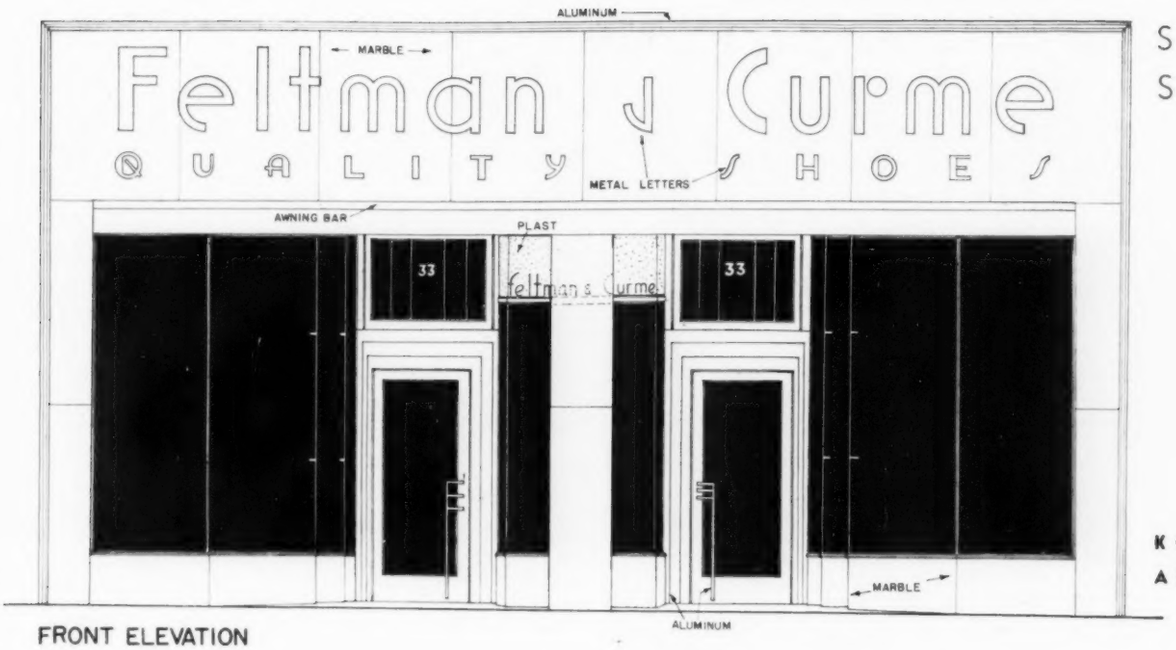
A shop front designed around merchandise requirements; notice that by throwing the entrance door off center, space for window inspection is afforded without hindering in-and-out traffic. CONSTRUCTION: base and pilasters, red Verona marble; frieze, honed travertine; vestibule floor, terrazzo in red, green, black, tan and yellow; all metalwork (including sign), polished bronze; show window floors, walnut parquet; entrance doors, walnut.

Photograph by Lincoln

PIOSO, PETERSON AND ASSOCIATES
ARCHITECTS

HAHN SHOE STORE — WASHINGTON, D. C.

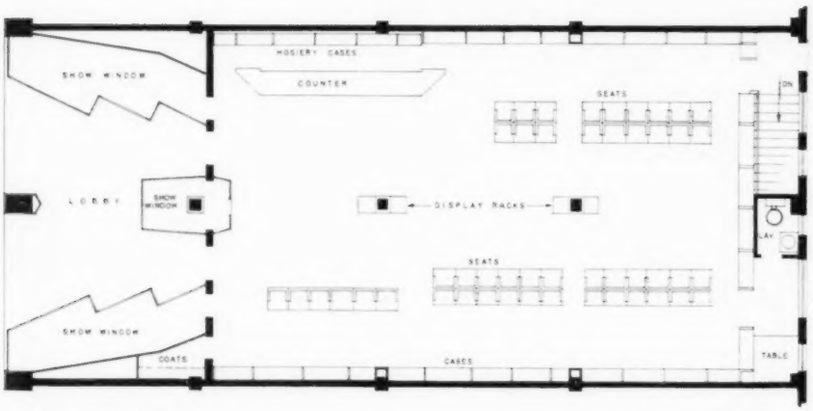
A dramatic handling of a three-floor shop. Due to local ordinances, the show windows project 3' beyond main building line; this projection is utilized for indirect lighting. The entire lower portion is in black Carrara glass, with bronze trim, doors, signs, etc.; the upper portion is sheathed in large blocks of Indiana limestone. The central window lights both upper floors of the store.



FRONT ELEVATION

KOENIGSBERG AND WEISFELD
ARCHITECTS

FELTMAN & CURME SHOE STORE — PHOENIX, ARIZONA



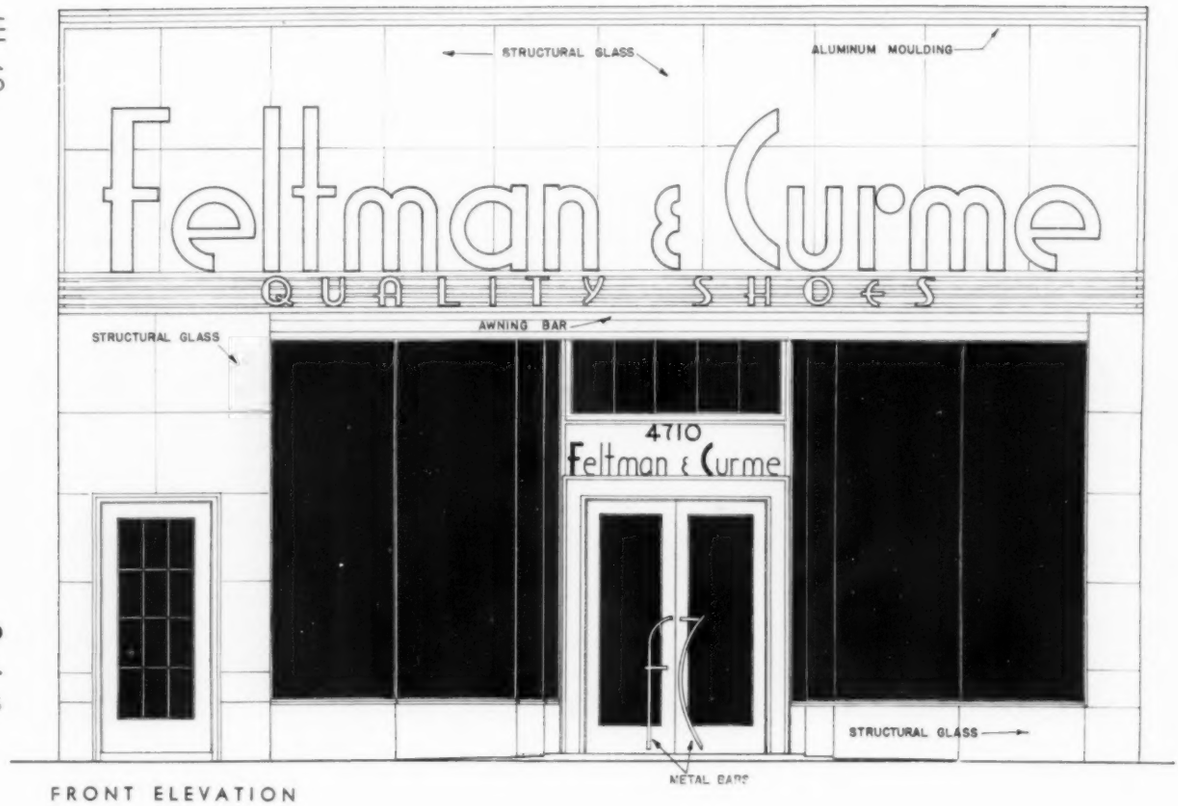
FLOOR PLAN

EXTERIOR: Faced with black structural glass and alumilite finished aluminum mouldings. Vestibule floor is three-color Terrazzo with white metal dividers.

INTERIOR: Plaster walls and ceilings. Cornice mouldings, aluminum leaf. Fronts and cases trimmed with calamine aluminum mouldings. Counter, walnut face with linoleum top. Floors covered with linoleum. Chairs, tubular steel.

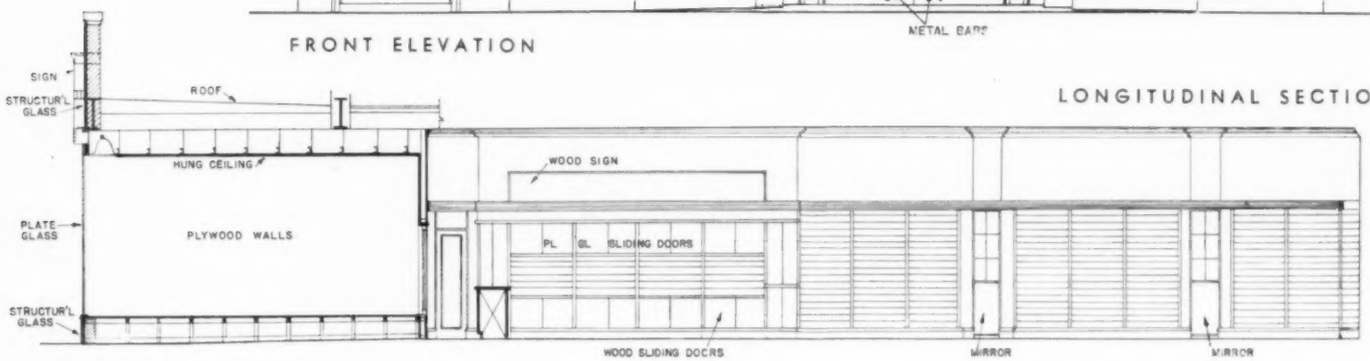
TEMPORARY FRONT DURING CONSTRUCTION

INTERIOR OF SHOP



FRONT ELEVATION

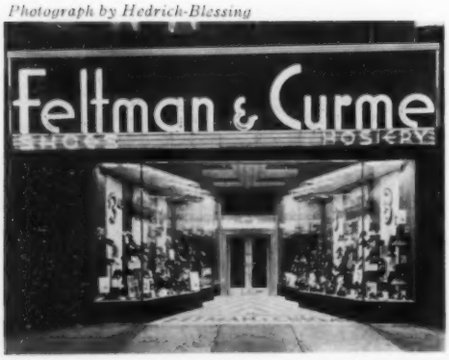
KOENIGSBERG AND WEISFELD, INC.
ARCHITECTS



LONGITUDINAL SECTION

FELTMAN AND CURME SHOE STORE — CHICAGO, ILLINOIS

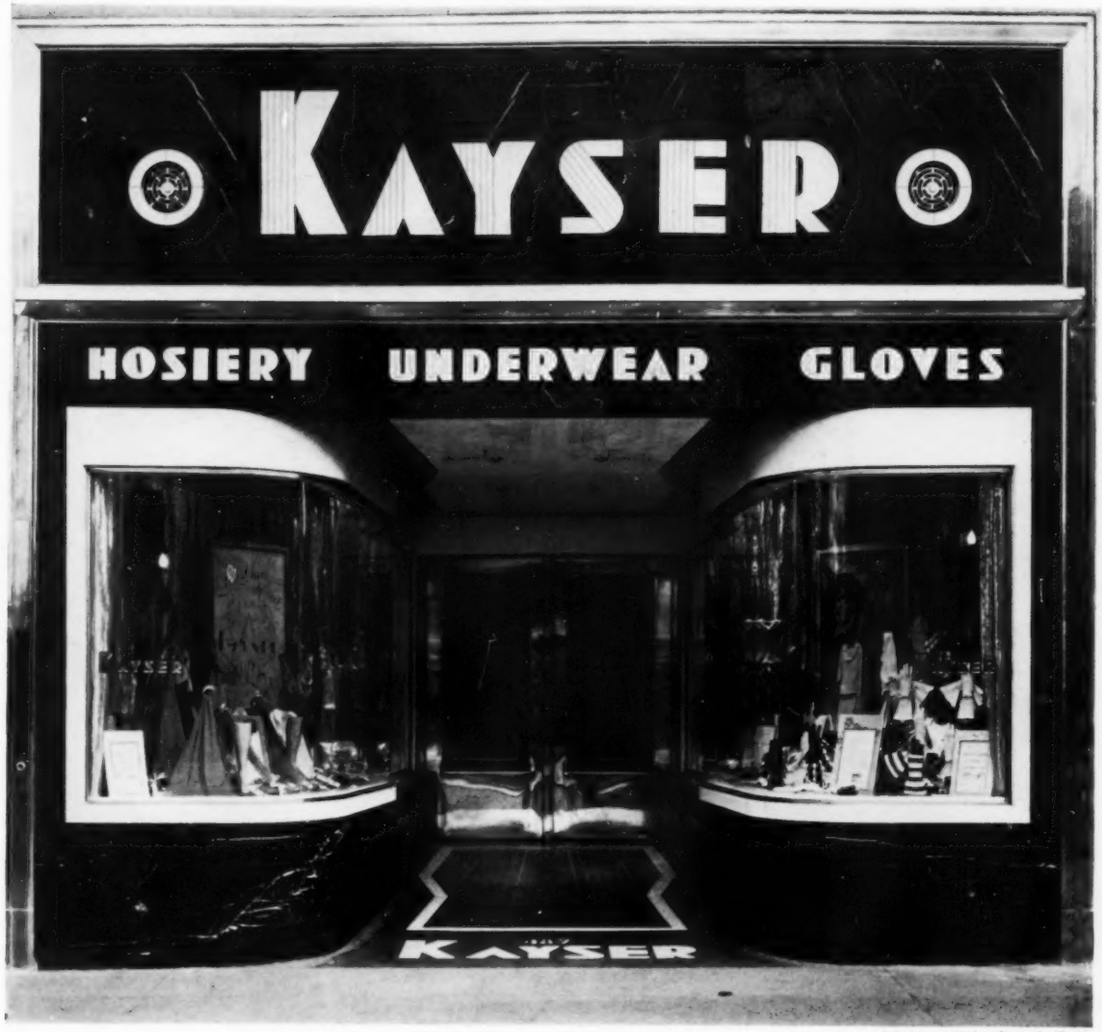
Photograph by Hedrich-Blessing



FRONT ELEVATION LIGHTED

EXTERIOR: Black structural glass, stainless steel and neon tube sign, alumilite aluminum moldings and trim. Terrazzo floor.

INTERIOR: Walls and ceilings painted Brewster green. Linoleum floor, chairs tubular steel. Walnut-faced counter with linoleum top and snap-on steel moldings.



Photograph by Joseph Molitor

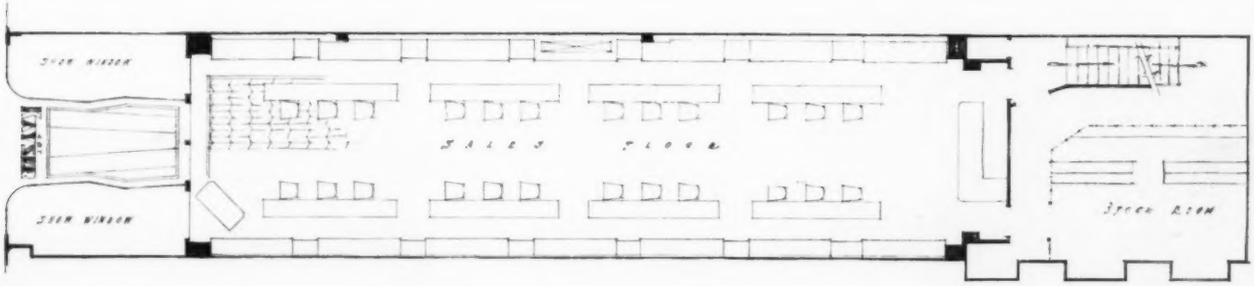
EDWARD I. SHIRE
ARCHITECT

JULIUS KAYSER STORE

NEW YORK CITY

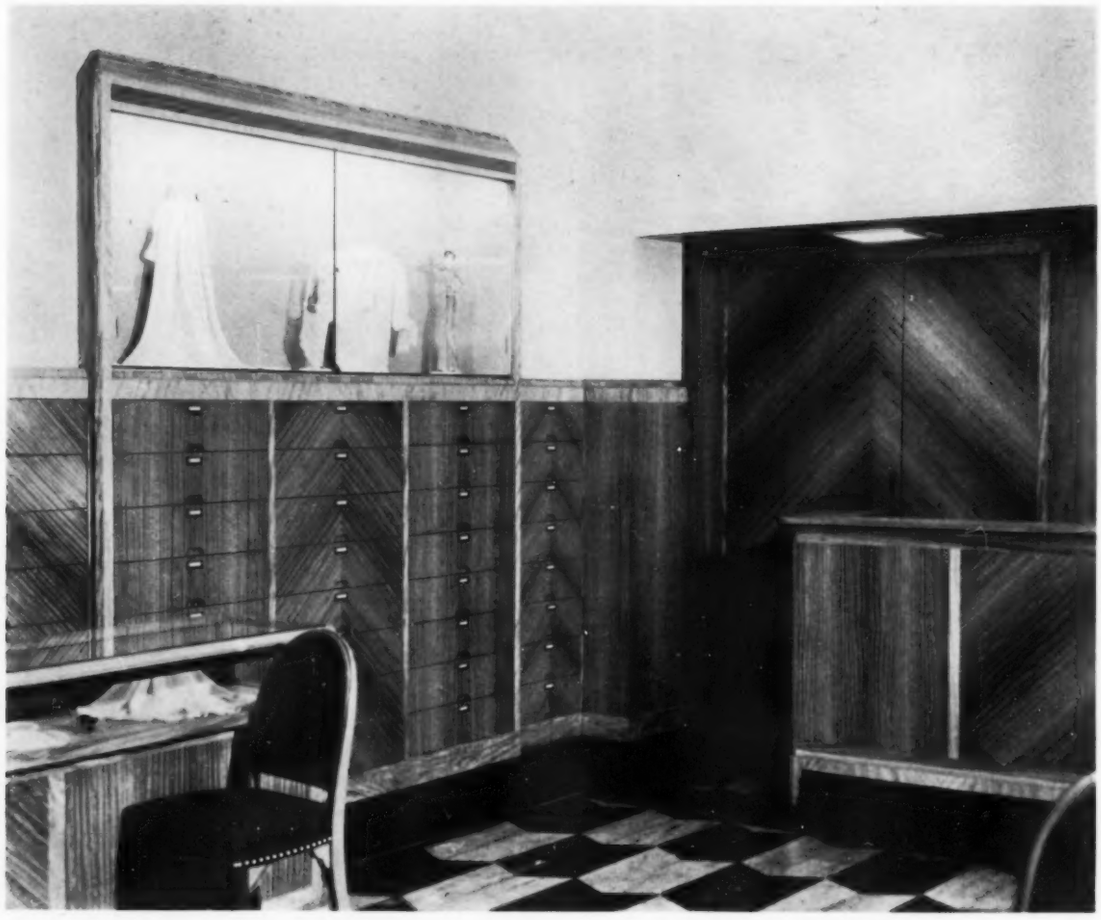
Front of blue Belge marble with white marble and cast bronze trim; vestibule floor, black and white terrazzo with bronze inlays; vestibule ceiling, black and white marble; entrance doors, bronze, Austral type; marble base and glass in one piece at curves. Lettering and grilles of hammered copper, gold-plated where exposed, inlaid with vitreous enamel. Awning entirely concealed when closed.

Sales space on main floor only, with executive offices on mezzanine. Storeroom and rest rooms in basement. Entire premises air conditioned. Indirect lighting for main part of store. Walls stippled and tinted coral pink. Ceiling off white with light stipple. Woodwork, satinwood with white mahogany trimming. Rubber floor, walnut and light tan. Chairs match woodwork and have light blue upholstery.



FLOOR PLAN

SPECIALTY
SHOPS

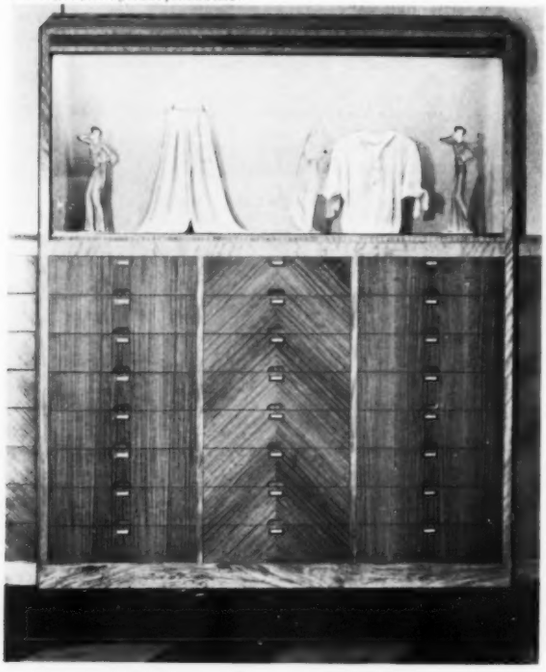


EDWARD I. SHIRE
ARCHITECT

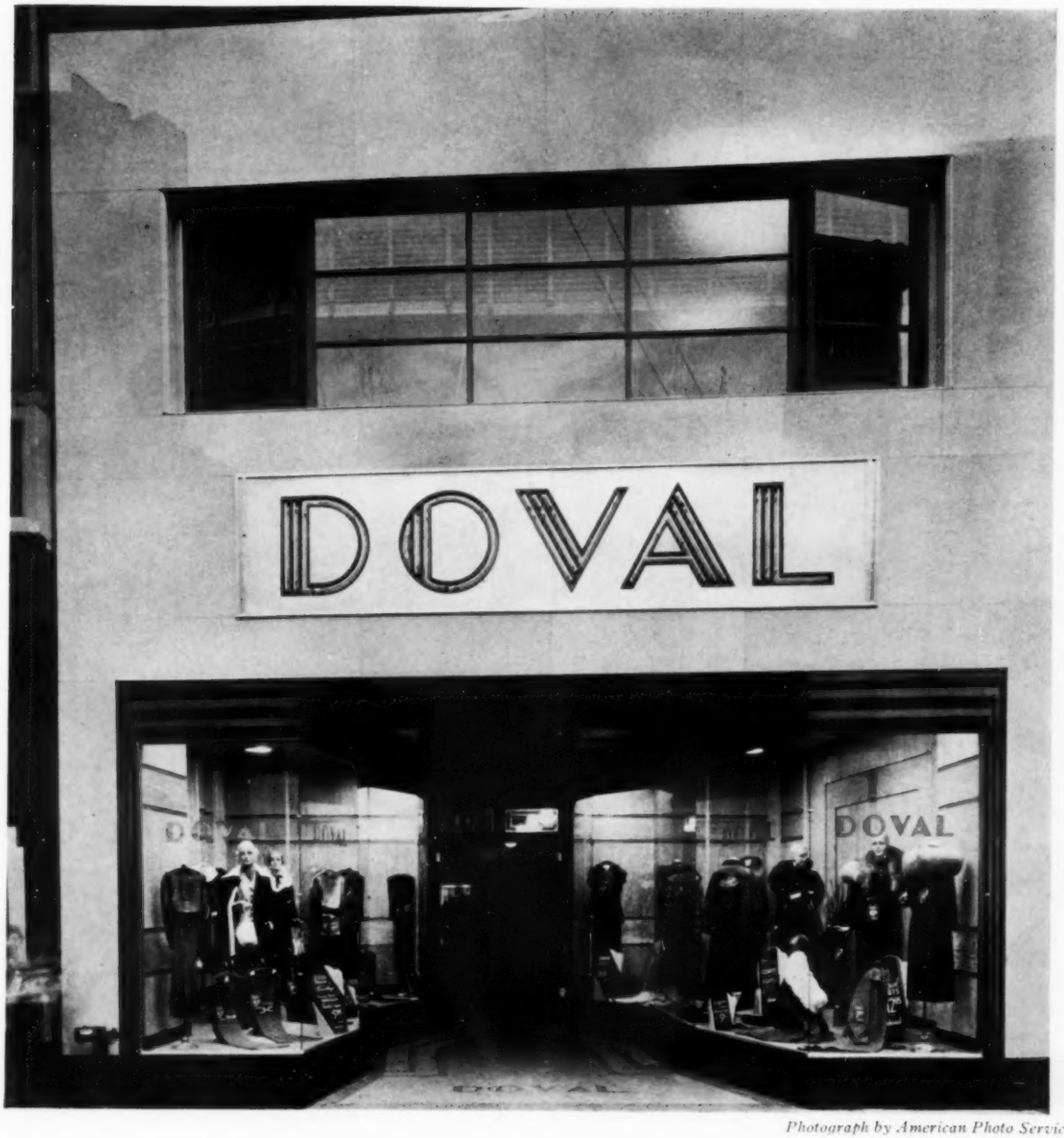
JULIUS KAYSER STORE

NEW YORK CITY

Photographs by Joseph Molitor



GENERAL INTERIOR



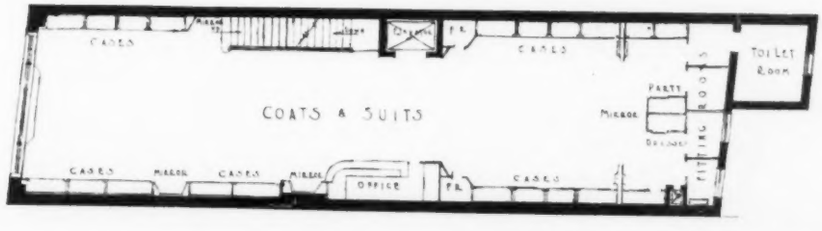
Photograph by American Photo Service

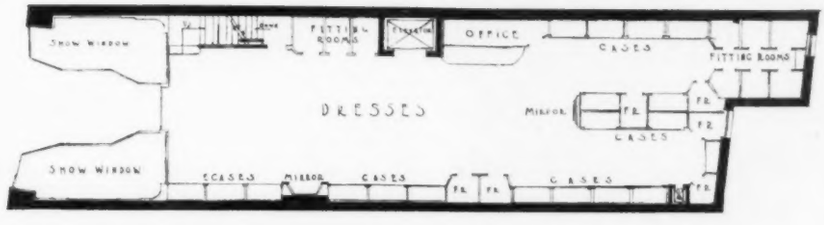
SAMUEL L. MALKIND
ARCHITECT

DOVAL DRESS SHOP

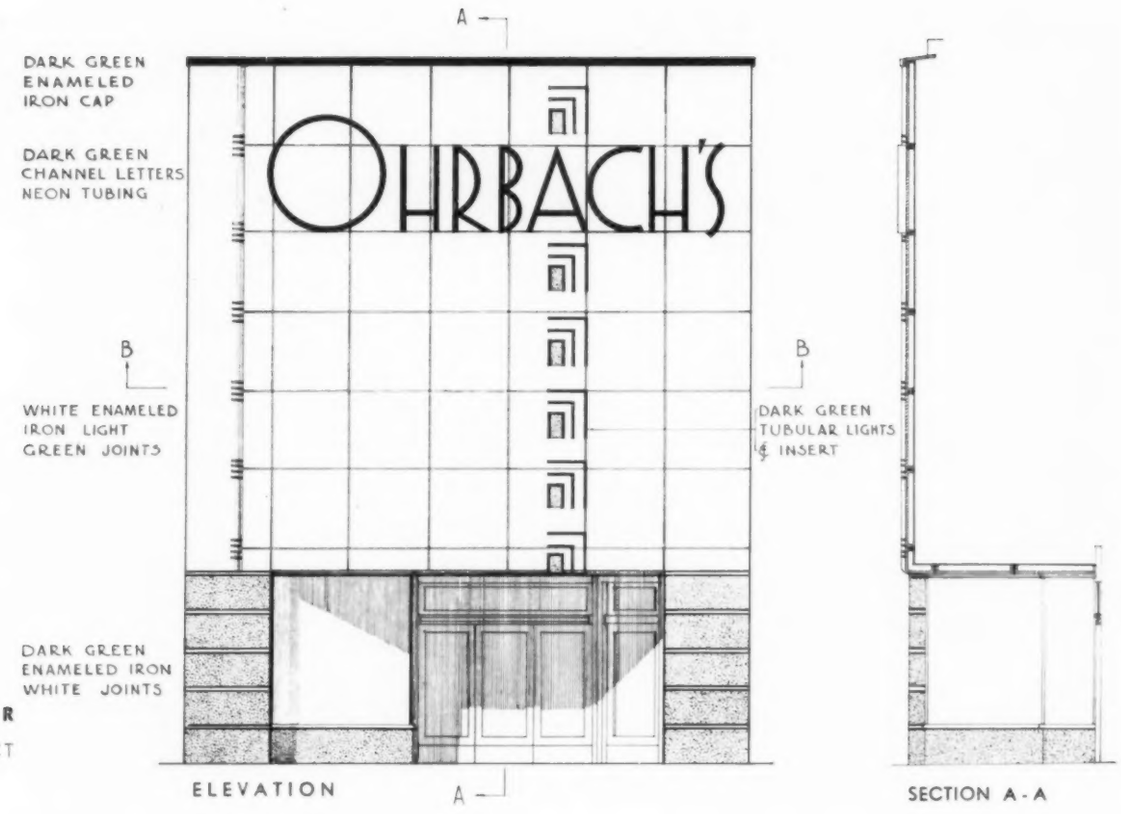
BROOKLYN, NEW YORK

A remodeling job in which the face of the shop was sheathed in structural glass—black around the windows, gray elsewhere. The sign has countersunk Neon lettering in an aluminum field. The interior is entirely finished in avedive wood, with mahogany and maple finish. The entire store has indirect illumination.





DRESS SHOPS



J. M. BERLINGER
ARCHITECT

OHRBACH'S STORE

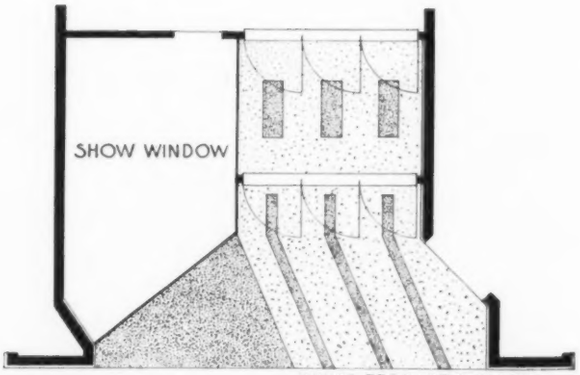
NEW YORK CITY

SECTION B-B

A remodeled entrance façade to the dress shop which in turn connects with the main building. The front is composed of porcelain enamel blocks in ivory and green. All the blocks are dovetail-jointed, concealing all screw fastenings. The lettering and the vertical pattern are neon-lighted. The tubing letters are of stainless steel.

Photograph by George Van Anda

FROM THE STREET



TVA ARCHITECTURAL SECTION AND ROLAND A. WANK
ARCHITECTS

TOWN STORES AND OFFICE BUILDING NORRIS, TENNESSEE

Text by E. S. Draper, Director of Land Planning and Housing Division, Tennessee Valley Authority.

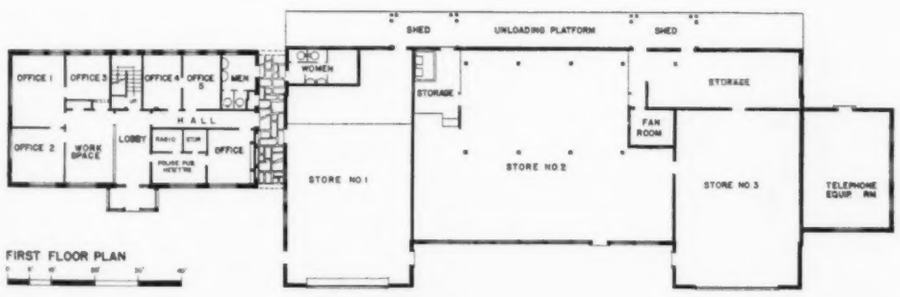
The store and office building at the Tennessee Valley Authority's town of Norris, Tennessee, was designed to serve the requirements of this community of some 350 families. The present building is the outgrowth of a smaller structure originally designed as a so-called agricultural building where local farm products were to be marketed.

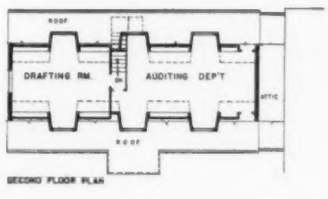
Adjacent to this building a site was reserved for an inn, a hospital, a building for shops and offices, and a school. The school and the agricultural building were built; the construction of the others remaining in abeyance, however, until such time as the town's final status might be fully determined, so that the need for additional buildings could be more accurately measured.

Pending this development, however, the need for shopping facilities and a town office became so urgent that it was decided to utilize the agricultural building for these purposes, making such additions as were necessary to provide for immediate space needs. The original building consists of the larger central unit, the wing for town offices being added at one end, the telephone exchange at the other. The result is an interesting building with little if any evidence that it was not built as one operation.

The exterior design is an interesting adaptation of the same domestic style that is found in the town's dwellings, which, in turn, were influenced somewhat by local architectural characteristics. For instance, the open passageway between the office wing and the store building is very suggestive of the "breeze-way" type of plan so commonly found in the older rural sections of the South.

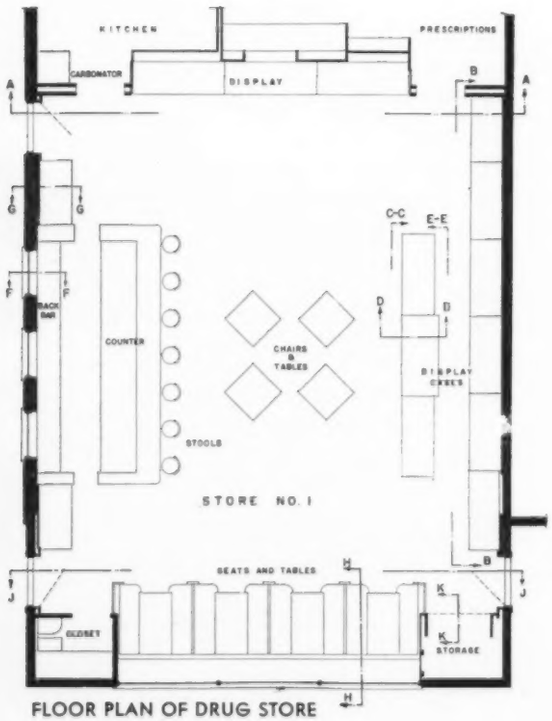
The wall construction is of brick, but with the gable bays of frame construction and finished with hand-split oak shingles above the sill course. The roof is of rigid-type asbestos shingles, sage green in





SODA FOUNTAIN OF DRUG STORE

TOWN STORES AND OFFICE BUILDING



FLOOR PLAN OF DRUG STORE

color to contrast with the red brickwork of the walls. The canopies above the display windows are of sheet metal, with scalloped edges to overcome any "boxy" effect.

The office wing provides space for the Norris Town Manager and his staff of assistants, as well as the police headquarters. Upstairs is a drafting room and work space for the auditing department. In this wing the first story floor construction is of precast concrete slab and joist construction with a smooth tile-like integral surface, colored red. The second story floors are of oak. The walls and ceilings, throughout, are of V-jointed plywood; the walls finished natural, and the ceilings painted.

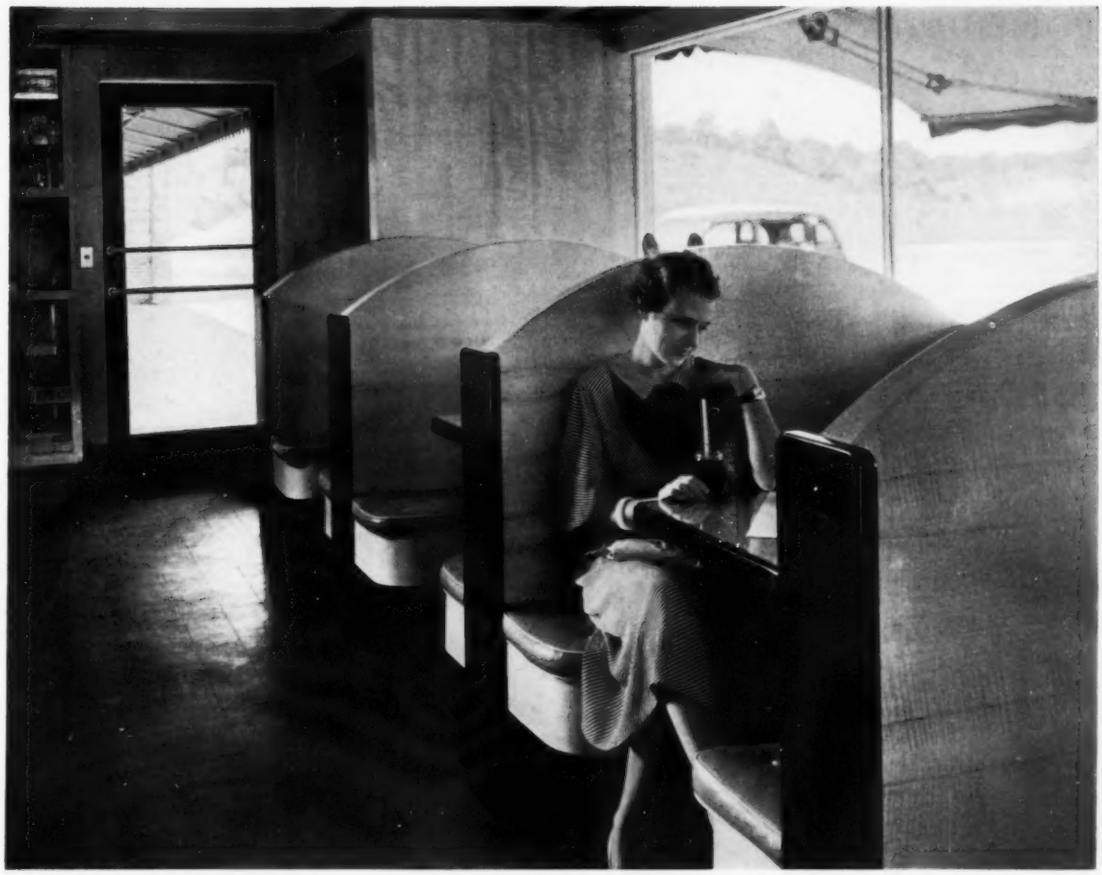
The floor construction throughout the main building is of reinforced concrete with the slab resting on tamped earth. In the drug store, the food shop, and the public space in the post office, the floor surface is finished with asphalt tile, red in color. Elsewhere the surface of the concrete floor slab is left exposed.

In the drug store the lower portion of the exposed wall surfaces is of natural finish, maple veneered plywood. The upper walls and the ceiling are of plywood, painted yellow, with the ceiling joints grooved. The refreshment booths and the shelving are of maple to match the walls. The soda fountain counter is of Tennessee marble, and the fixture trimmings are of stainless steel. Seat cushions are of Fabrikoid.

The food shop is conducted as a cooperative enterprise, with the members of the community owning the shares, controlling the policy, and participating in any profits. Here the lower walls are of dark leather-colored wallboard, with the surface scored tile-fashion and finished in the natural color of the material. The upper wall and the ceiling treatment is similar to that in the drug store.

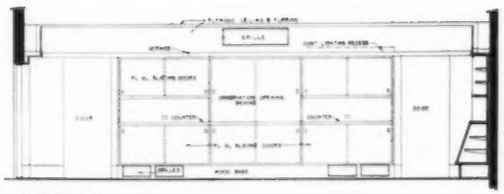
The post office is now being installed in a portion of the commercial building orig-

TVA ARCHITECTURAL SECTION AND ROLAND A. WANK
ARCHITECTS

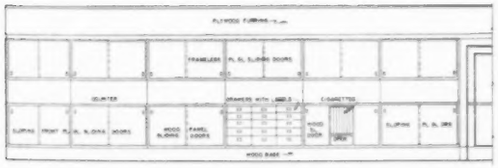


BOOTHS IN DRUG STORE

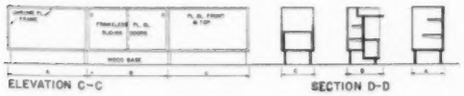
NORRIS, TENNESSEE



SECTION A-A

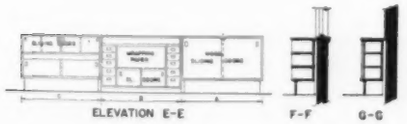


SECTION B-B



ELEVATION C-C

SECTION D-D



ELEVATION E-E

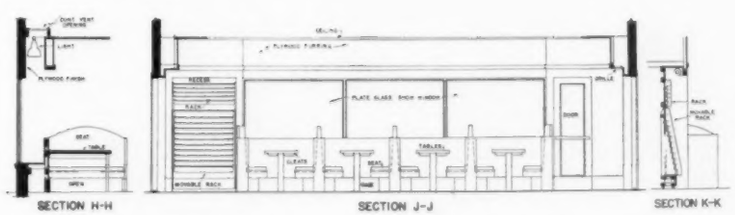
F-F G-G

inally used for the storage of surplus merchandise. During the height of Norris Dam's construction period, it was considered that the post office was most conveniently located in the construction camp where the bulk of the employees were concentrated. Since that undertaking is now practically completed, however, there is greater need for the post office to be incorporated within the town's shopping center.

All ceilings throughout the building are insulated with fill type insulation, and the roof spaces may be ventilated through gravity type, ridge ventilators in warm weather. The toilets have Keene's cement wainscots and cement floors.

This building, in common with most of the others at Norris, is electrically heated throughout. The grocery store and the drug store are heated by means of forced systems of electrically warmed air supplied through ducts and ceiling registers, but with the system arranged so that it may be used for ventilating in warm weather. The remainder of the building is heated by convector type electric space heaters.

This building was designed by the Architectural Section of the Authority's Land Planning and Housing Division, Roland A. Wank being the architect in charge of the alterations and additions.



SECTION H-H SECTION J-J SECTION K-K

COMMUNITY
STORES

TVA ARCHITECTURAL SECTION AND ROLAND A. WANK, ARCHITECTS

TOWN STORES AND OFFICE BUILDING NORRIS, TENNESSEE

The cooperative grocery store is a model of clean planning and intelligent construction. Notice arrangement of merchandise and absence of display cards.

One of the offices in the section devoted to the town's government. They are insulated against sound transmission and heat loss and electrically heated.

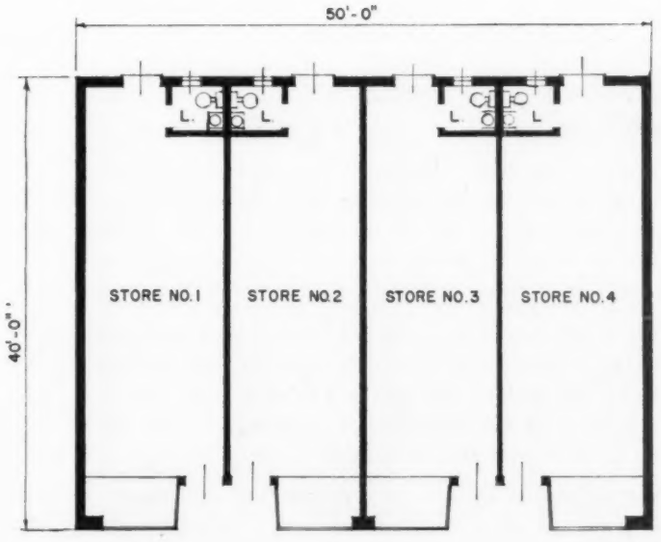
Photograph by Murray Peters

WALTER D. SPELMAN
ARCHITECT

STORE GROUP

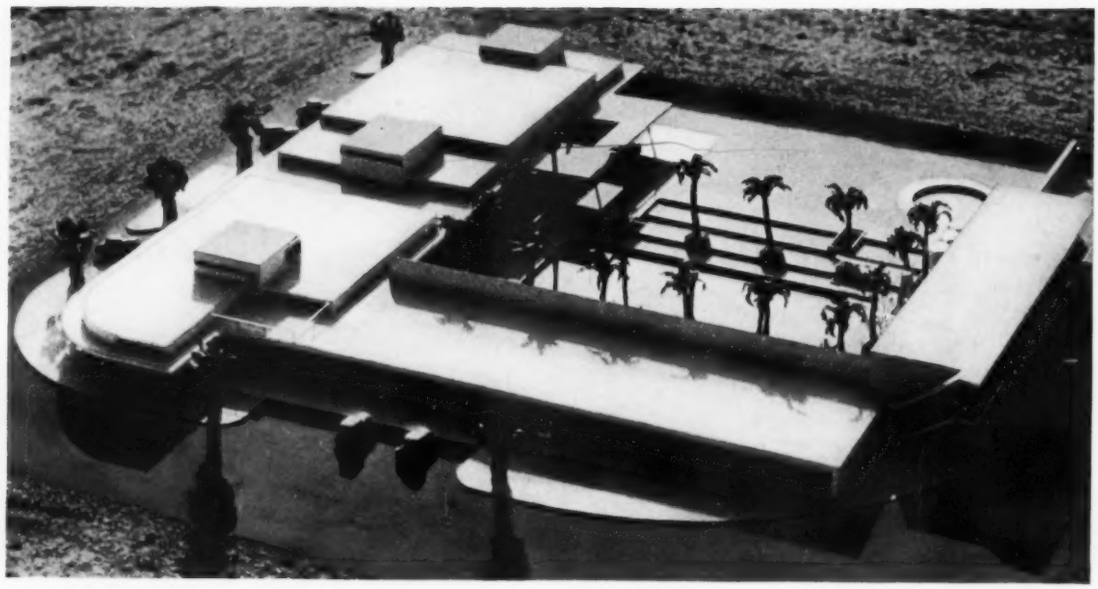
ROCKVILLE CENTRE, LONG ISLAND

A group of small stores built as "taxpayers" at a cost of $5,000. Walls are of concrete block, stuccoed on sides and rear, sheathed with black Vitrolite in front. Roof is built-up roofing on wood construction. The building has no basement. All trim on shop fronts is in chromium. Floors are Armstrong's accotile. Walls and ceilings are plastered.



FLOOR PLAN

PUBLIC RECREATION PROJECTS



DESIGNED BY
JOHN P. CLARK
ARCHITECT
AND ALBERT FREY

PROPOSED RECREATIONAL PROJECT PALM SPRINGS, CALIFORNIA

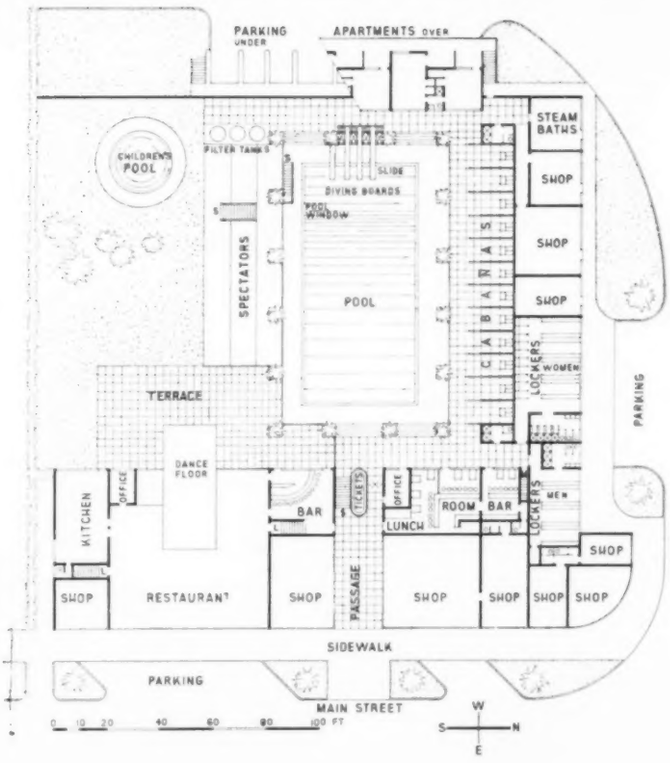
The establishment is planned for a site about 250 feet square, at walking distance from the center of town, located along the main drive and surrounded by streets on three sides. Shops along the main street are intended for men's and women's sportwear, beauty and barber shops, stores for delicatessen and health foods. Facing the side street are dancing and bridge instructors, massage, etc.

A restaurant with in-and-outdoor areas, bar and dance floor is centrally located. Lunchrooms are provided for bathers as well as for spectators. The center of the establishment and its focal point is a regulation pool 42 by 90 feet which may serve for championship games. Divers can be watched and photographed from an underwater window in the side wall of the pool. Swimmers may rent lockers or private cabanas intended for families or groups. Cabanas located on the north side may be rented by the month or season. Each has two individual dressing rooms and private showers. These are placed on a level above the pool for privacy.

Spectators who do not wish to bathe will approach the spectators' terrace through an underground passage reached by a stair at the ticket booth. Spectators, visitors to the restaurant and swimmers are strictly separated.

The apartments to the west are to be leased to shopkeepers or outsiders. The buildings are planned in such manner as to protect the pool area from streets and from cool breezes. The pool is further protected by being terraced below the ground level. A children's pool and playlawn are located on the south side of the plot to keep noises away from adults' recreation.

This arrangement leaves open the magnificent views which are to the south and also permit the low rays of the winter sun to reach the pool area. Three steel tanks required for the continuous filtering of the pool water are exposed with the purpose of displaying the efficiency and cleanliness of the establishment.

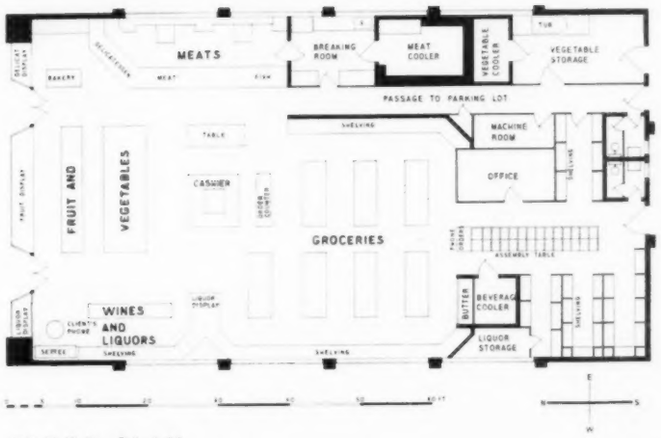


Photographs by George Haight

VAN PELT AND LIND
ARCHITECTS

JURGENSEN'S MARKET
PASADENA, CALIFORNIA

This new covered market for a California suburb is a simple and honest solution of a much neglected problem. Easy circulation, maximum visibility and free planning have been achieved by the trussed roof construction. The market, which is located next to a motor service building, has a parking lot for patrons in the rear.



FLOOR PLAN

SIDE ELEVATION

STREET FRONT AT NIGHT

CONSTRUCTION OUTLINE:

Reinforced concrete, wood roof trusses — "Arch-Rib"; roofing, "Carey" 10-year roof, aluminum painted. Show window front, aluminum covered (sheet and sections); sash, steel.

Lighting: Display windows lighted by combination incandescent and gas tube lighting, to produce natural daylight effect, resulting in most favorable appearance of fruits and vegetables. Interior lighting, semi-indirect "Holophane" fixtures.

Color scheme: concrete walls, warm white; metal and roof, aluminum.

Signs: "Jurgensen's", blue-green (gas tube on metal letters); "Fine Foods", yellow-gold (gas tube on metal letters).

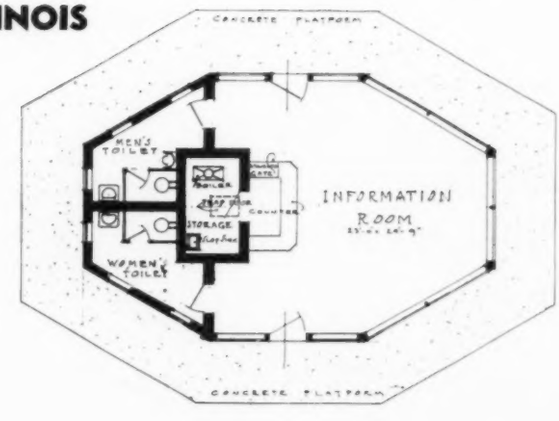
Cost: Building, exclusive of fixtures and architect's fee, $13,500.

INFORMATION
BUREAUS

Photograph by Hedrich-Blessing

PAUL GERHARDT, JR.
CITY ARCHITECT

CHICAGO HOST HOUSE — CHICAGO, ILLINOIS



The Chicago Host House was erected during the year 1935 on a triangular plot of ground at the southeast entrance to Chicago created by the extension of a diagonal thoroughfare. The purpose of the House is to serve incoming visiting motorists as a public information and comfort building. The building contains a general waiting or lounging room in which, in addition to comfortable furniture, will be found a counter where a clerk is in attendance to reply to the inquiries of those desiring information concerning Chicago. In addition to the toilet facilities there is a small storage room which contains a gas fired heating plant.

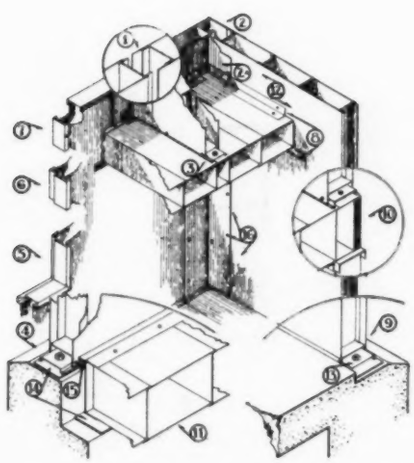
The building has a steel frame on a reinforced concrete foundation, faced and enclosed with anodized aluminum sheets and extruded sections to maintain the original lustrous satin finish, with large plate glass windows. The base course is of black terra cotta. Lettering on two elevations is of 12" high cast aluminum, alumilite finish, with black enamel wood backing.

DEVELOPED BY
INSULATED STEEL CONSTRUCTION CO.

SHELL OIL STATION — TOLEDO, OHIO

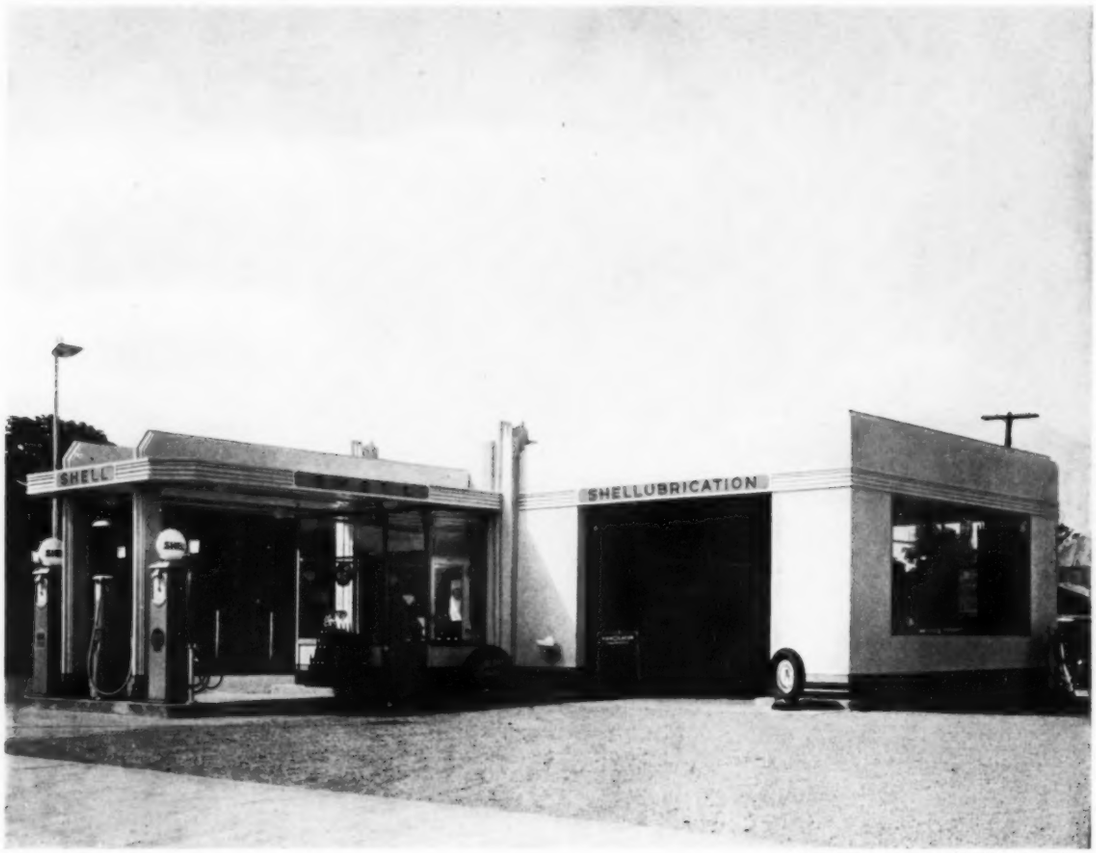
This station, designed and built by the manufacturer of a new structural system, was erected in 2½ weeks (excluding concrete, plumbing and electrical system). The system is interesting in that no skeleton construction is required, wall and roof sections carrying themselves without additional framing.

The walls are 3" thick, the roof sections 5½" thick; walls are filled solid in the shop with 3" Zonolite insulation, 1" of insulation is applied to the roof. The roof deck furnishes a subceiling which can be painted as shown in the photograph, also a subroof to which the Celotex and waterproof roofing is moped. Spans of up to 28' are possible with these roof sections without any structural iron support, the roof simply resting from wall to wall.



1. Standard union between wall panels.
2. Exterior corner section.
2A. Interior corner section.
3. Partition attachment to steel floor.
4. Foundation detail for frameless-steel first floor and exterior wall.
5. Window detail "A" for steel sash for painted exterior-interior finish.
6. Window detail "B" for steel sash for use with veneered exterior-interior finish.
7. Detail "C" for wood window and door frames.
8. Bearing angles for supporting second floors and roofs within parapet.
9. Foundation detail for frameless-steel wall and concrete floor slab.
10. Detail platform construction.
11. Detail of floor assembly.
12. Detail of wall assembly.
13. Detail of foundation channel.
14. Foundation asphalt strips.
15. Waterproof calking.
16. Sheet metal screws.

FILLING STATIONS



Photograph courtesy Shell Oil Company

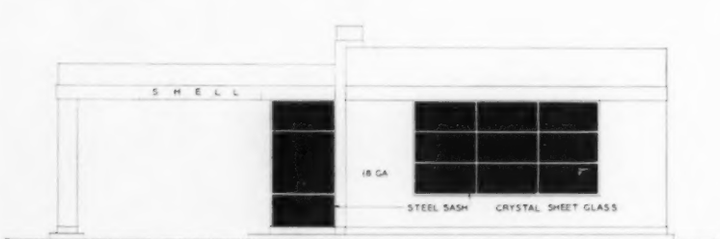
L. RAYMOND WHITE
ARCHITECT

TYPICAL STATION FOR SHELL OIL COMPANY

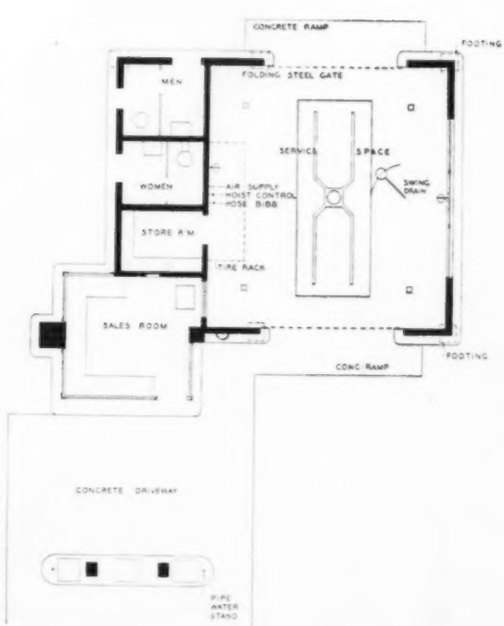
Using a typical plan, this small service station is popular on the Pacific Coast in locations where only one group of pumps is required in addition to a single hoist for lubrication service.

The plan is compact, combining salesroom, service space and rest room facilities. Salesroom is offset in plan, giving operator maximum visibility. Canopy over driveway, which is typical of service stations in the West, affords protection during inclement weather and shade in hot sunny territories.

Units of this type have been constructed of wood frame and stucco, concrete with stucco finish, and steel. In the steel structures, 16-gauge galvanized steel sheets with welded and ground joints have been used for plain surfaces, and 20-gauge for molded surfaces.



SIDE ELEVATION

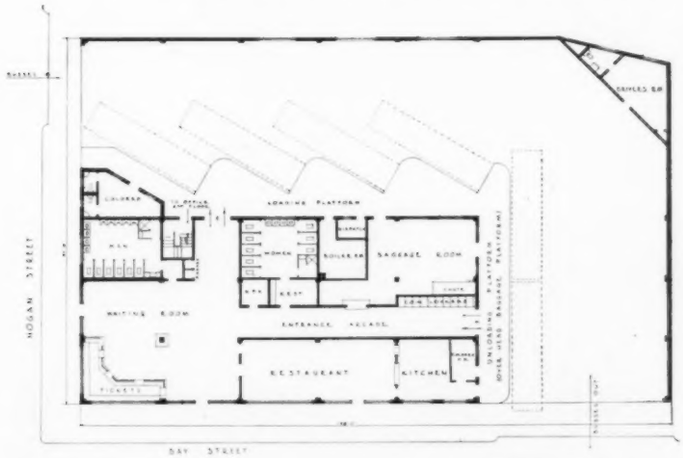


FLOOR PLAN

W. KENYON DRAKE
ARCHITECT

UNION BUS STATION

JACKSONVILLE, FLORIDA



Built at a cost of $100,000, this new fireproof bus terminal has several notable features — complete shower bath and toileting facilities for tourists, baggage conveyors and chutes. The second floor is occupied by company offices.

The structure is of steel, concrete and brick construction, with stucco finish on street walls. The exterior dado is of black Carrara glass, while all sash and trim are aluminum.

GENERAL EXTERIOR

B U S
SHELTERS

The bus shelter can be built of light weight but durable sections, suitable for replacement or addition. Provision should be made for:

- Seating
- Telephone of pay station type
- Shelter against wind, rain and snow
- Clear vision, preferably in all directions
- Paved platform
- Sign as station designation
- Map of bus route
- Timetable rack or chart

PLAN FUNDAMENTALS FOR THE MEN'S SHOP

By KENNETH C. WELCH

While every job has its own problem in regard to distribution of areas and arrangement of stock, the same general principles of design apply to the individual men's shop and to the men's shop of a department store. Mr. Welch, vice-president of Grand Rapids Store Equipment Co., is an architect with a wide practical experience as a store designer.

The plan is the dominating factor in designing a men's shop. The success of any shop depends first of all on its operation, which includes basically merchandising and service. The cost of doing business, outside the cost of the merchandise, is divided into several headings, in order of their importance, as follows: administrative, selling salaries, publicity, fixed plant and equipment costs, general selling expense, occupancy (exclusive of fixed plant and equipment costs), and delivery expense. The sum total of these expenses represents twenty per cent of the net sales. Anything that can be done in the way of planning the store to help reduce these expenses means that much more profit; many stores today operate on a margin of profit which is only a small percentage of their sales.

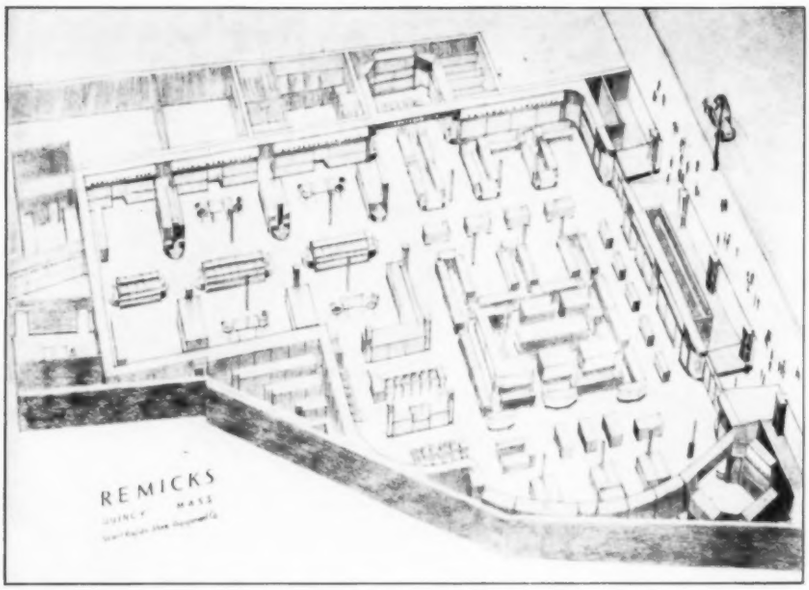
Little can be done in planning to help administration expense, except to give the management comfortable quarters with the possibility of some easy method of supervising. With selling salaries, however, an efficient plan can be of great assistance. It has been estimated that from 15% to 25% (and sometimes more) of a clerk's time is spent in getting stock to show and in servicing a sale. It is obvious that if stock and servicing units can be so planned and located that the clerk has a greater amount of time to spend in actual selling this major expense can be materially lowered and a better service rendered to the customer.

The elevation or environment provided has some bearing on publicity expense. While newspaper and other forms of advertising amount to well over half of the total publicity expense, exterior and interior displays, when properly designed, have a decided bearing on the effectiveness of advertising.

Fixed plant and equipment costs have to do with rental, interest on investment, insurance and taxes. It is obvious that economy of space and building costs affect this expense. The other items are comparatively minor but, of cource, occupancy, as represented by maintenance and general housekeeping, can be affected by the materials as well as by the design of certain equipment. Light, heat, and ventilation all fall under this bracket and are important as a matter of expense. So much for expense.

Many people think of a shop selling merchandise for men as appealing only to men. This is far from true. In the men's furnishing section in the average department store probably eighty per cent of the merchandise is sold to women. This ratio of course does not hold in a strictly men's store but, nevertheless, the appeal to the woman shopper is important. This is one basic reason for so many men's shops having added women's lines on upper floors. Many men's shops also carry boys' clothing and furnishings, which again appeal to women shoppers. There are many so-called specialty stores which have started out as men's stores and added the other lines. As a rule, when this has happened, the ratio of men's wear volume to women's wear is relatively greater than in the specialty shop or department store, where this type of development has not taken place.

Furthermore, men are becoming more style conscious due, in a great measure, to the development of magazines for men which, by the way, are read by women as well as men. Smarter merchandise calls for smarter interiors styled in conformity with the merchandise. Only a few years ago the average retailer of men's wear would not consider anything that approached modern design. It was assumed that the average man did not want to be appealed to in any manner but a conservative, staid, good old-fashioned way. Some adaptation of a typical English period (due probably to the thought that



REMICKS, QUINCY, MASSACHUSETTS. KENNETH C. WELCH, ARCHITECT. This store, carrying men's furnishing, hats, clothing, boys' furnishings and clothing and shoes, before modernization, had the typical layout consisting of showcase bays running from front to back. This created five aisles from front to back, which, with the two entrances at the front and the one at the back, made three of these aisles without any natural traffic, and the merchandise placed on these "dead" aisles consequently suffered. The new plan eliminates this difficulty by having only two aisles opposite the entrances and permits a convenient stock room, interchangeable between boys' and men's furnishings, in the center of the floor. There is also a stairway here leading to the reserve stock space in the basement. The rear entrance leads to a large municipal parking space, ample for any amount of possible day or evening parking, which extends the length of the shopping district.

men's styles originate in London) was the most favored. This has all changed now and the great majority of the newer shops are in the modern mode.

Modern lends itself successfully in many ways to store design, entirely aside from the fact that it is difficult, if not impossible, to adapt most dated styles to store fixtures. The main asset is its possible simplicity, letting the merchandise play the part that ornament has played in many dated styles. The more the merchandise can be made to stand out, in its proper environment, the better for the sales. Too much decoration—and even too much color—when it detracts from the merchandise is not desirable from a sales standpoint. A great many atrocities have been perpetrated under the name of "snap" and "dramatization."

Another thing that makes modern an ideal style for stores: many times it is desirable to do unusual things in plan for the purpose of creating a logical and desirable flow of traffic. These tricks, if you want to call them that, would be difficult to clothe in any dated style. The increasing importance of modern lighting because of its effect on sales is still another reason for a modern treatment.

Men's apparel is a necessity, but many items are sold in a men's store which are luxuries, and more and more of this type of merchandise is being promoted. This type as well as many of the so-called necessities are what are called "impulse buying types." For example, men's neckwear. Few men ever enter a men's store with the express purpose of buying a necktie. They go to buy a suit, an overcoat, or perhaps some shirts, but in the process of making these purchases they see or are shown some neckwear and make a purchase. There are also a great many items sold in a men's store of a gift nature. This is proved by the unusually high relative sales in December. The fact that so much of the merchandise sold is of these impulse buying types makes it most important in planning a men's store to pay particular attention to location of merchandise in relation to a planned flow of traffic. It is a universally accepted fact that many of these items are dependent for their successful sale upon being seen by the greatest possible number of customers.

In the interest of utilizing the best locations for impulse type merchandise and of getting the maximum amount of merchandise and display in these preferred locations, it is important to consider the monthly fluctuation of volume in different lines and to make provision for increasing and decreasing the size of departments according to the seasons. Almost without exception the really successful stores are the ones producing the greatest sales volume per square foot of space occupied.

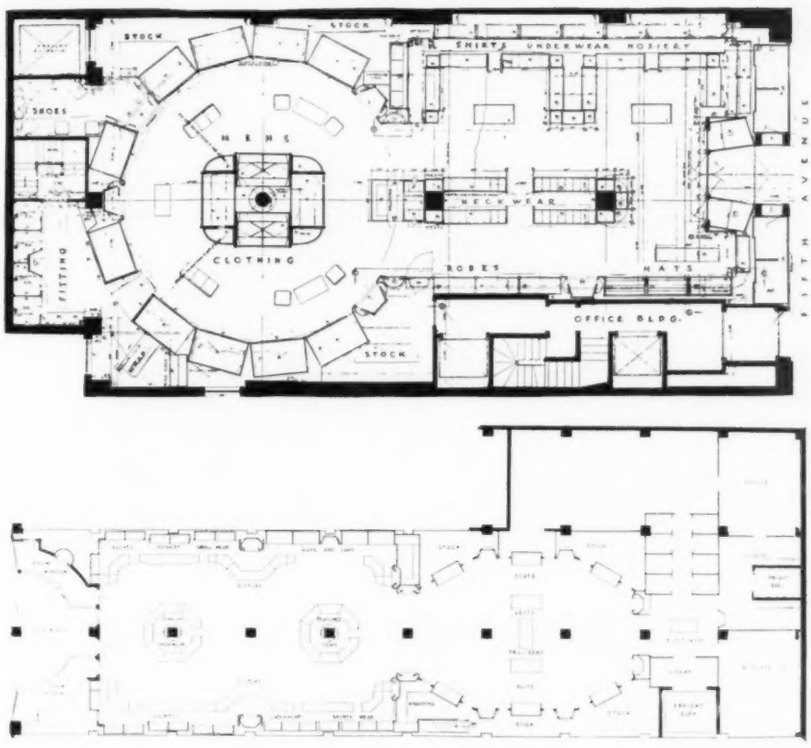
Men's stores do from three to four times as much volume in December as in the average month and, of course, a much greater proportion when compared with the off-season months. However, there are certain sections in the store that have a much greater fluctuation. For example, realizing that if every month's business were exactly the same each

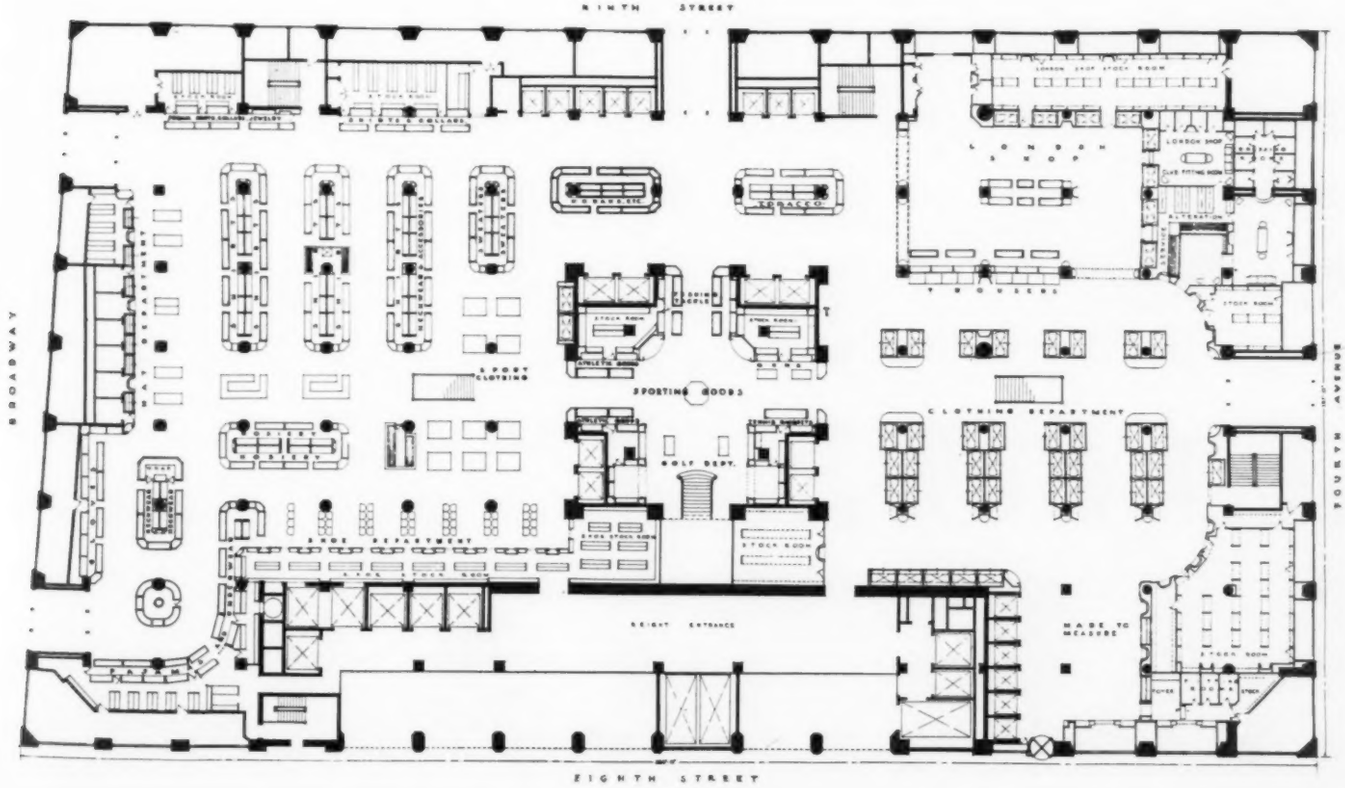
Right: **PLAN OF WEBER & HEILBRONER, NEW YORK. KENNETH C. WELCH, ARCHITECT.** The door is off center of the furnishings section so that customers going to the clothing section pass the "impulse buying type" merchandise. The sawtooth type counters in shirts, etc., increases the perimeter of selling space in a given area and is as easy to service as the same type of plan applied to a lunch counter.

Center: **PLAN OF GEORGE H. CAPPER, CHICAGO.**

Below: **PLAN OF THE MAIN FLOOR, SOUTH BUILDING, JOHN WANAMAKER, NEW YORK.** One of the largest complete men's floors in the country, carrying men's furnishings, hats, shoes, clothing, sporting goods and the London Shop, a complete furnishings and clothing shop in itself. The best entrance is at the southwest corner of Eighth Street and Broadway. Many women use this entrance, crossing over to the center entrance on Ninth Street to enter the North Building. Accordingly, men's furnishings items, which appeal mostly to women, have been placed adjacent to this line of travel.

Prior to the modernization of this floor there were two entrances near the corners on Fourth Avenue. These were eliminated and a center entrance substituted to simplify the traffic and consequently improve the supervision in the men's clothing as well as gain uninterrupted wall space combined with the necessary floor area for the stockrooms and service areas required. The clothing stockrooms, which the customers may enter carry over sixty per cent of the stock on the floor but occupy only seventeen per cent of the available net area. Note the forward stockrooms adjacent to the selling space in men's furnishings.





Photograph by Grignon

CHECK LIST OF POSSIBLE

SELLING SECTIONS

Shirts
Collars
Neckwear
Scarfs
Handkerchiefs
Hosiery
Gloves
Underwear
Pajamas
Jewelry
Garters, Belts, etc.
Sweaters
Bathing Suits
Robes
Smoking Accessories
Men's Gifts—Toilet Articles
Canes and Umbrellas
Luggage
Hats and Caps
Suits
Overcoats and Top Coats
Formal Clothes

Above: **SECTION OF BOYS CLOTHING DEPARTMENT, NATIONAL CLOTHING CO., ROCHESTER, N. Y. Here the equipment is designed to take double hangrods, as shown, or can easily be converted into shelving sections when desirable.**

Left: **FURNISHINGS SECTION IN YOUTHS DEPARTMENT, NATIONAL CLOTHING CO., ROCHESTER, N. Y. Illustrates the use of a stockroom adjacent to furnishings. Some merchandise is better sold from tables. Grand Rapids Designing Service.**

GEORGE H. CAPPER, CHICAGO—HAT SECTION. Note type of showcase with small display and space for stock below. Necessary in most men's stores today to accommodate stock, and another method used to reduce selling space in relation to stock space.

SECTIONS IN A MEN'S STORE

Sport Clothes
Odd Trousers
Chauffeur's Apparel
Made to Measure Clothing
Shoes and Slippers

SERVICE SECTIONS

Fitting Rooms
Busheling Room and Pressing
Wrapping Service Will Call
Cashier
General Office
Executive Offices
Cash and Charge System
Receiving and Marking
Reserve Stock Room
Delivery
Display and Sign Writing
Customer's Rest Room
Employees' Lockers and Toilets

Photograph by McAnally

Photograph by McAnally

Above: MEN'S CLOTHING SECTION—DREYFUSS & SON. TEXAS CENTENNIAL, HOUSTON, TEXAS. Suits carried two high. Indirectly lighted triplicate mirrors, silhouetted, signs and introduction of ventilating grilles, as a basic part of the design. Geo. Dahl, Architect.

Right: PART OF FURNISHING SECTION, DREYFUSS & SON, HOUSTON. George Dahl, Architect. Grand Rapids Designing Service.

WEBER & HEILBRONER, 5th AVENUE, NEW YORK CITY. Grand Rapids Designing Service. Kenneth C. Welch, Architect. Clothing department circular in plan, the space in the corners being utilized for stock and service. Materially advertised brands featured in signs. The same light that illuminates the merchandise also silhouettes the signs and adds to the general illumination.

month would represent 8.3% of the yearly volume, it is interesting to note that men's gloves will do 60% to 70% of their volume in December, and items like robes, neckwear, and other accessories will do as much as 40% in December. On the other hand, men's underwear, even with its increase in style appeal in recent years, being still more or less of a necessity, will do 12% to 13% of its volume in December. The men's clothing peaks come in the spring and fall. This all shows that some provision must be made for a decided give and take in space requirements for the different sections.

A men's shop is comparatively easy to plan equipment for, due to the fact that there is not a great diversity in the size of merchandise; most folds and packages have been fairly well standardized. When compared with a department store with its great variety of lines, from hairpins to fourteen cubic foot ice boxes, the men's store is relatively simple. There are a certain few small items, such as jewelry, hosiery, gloves, garters, etc., which, if they are to be carried in drawers, can be accommodated in one size of drawer. Neckwear is best carried on glass shelves or racks, and does not present any stock problem, but rather a display problem. The bulk of the furnishings, such as shirts, underwear, pajamas, sweaters, etc., all fit nicely into the same size units, so that any interchange of space they may have is merely a question of moving stock. Men's clothing has only two major divisions as far as size is concerned, short garments, such as suits and jackets, and long garments, such as overcoats, topcoats, robes, etc. As a rule, fluctuation between these groups is easily accommodated, if wall space is available, by carrying suits two high and overcoats, in season, one high.

Another important factor in planning a store is the proper relationship between the stock-carrying facilities and the selling facilities. For example, the present departmentized store is an outgrowth of the old dry goods store with its rows of counters and shelving. The plan was quite well standardized; enough shelving was provided to house the stock and the counter space surrounding the shelving just happened, regardless of whether it was a great deal more than was required to show the merchandise. This shelf space represents the stock-carrying facilities and the counter the selling facilities. In a modern store, we try properly to proportion the two. The amount of stock to be carried is more or less fixed by the volume of business. A certain amount of forward stock space has to be provided, but the selling space—represented by counter or showcase space in small wares or furnishings, or open floor space, fitting mirrors and dressing rooms in clothing—varies not with the amount of stock required, but with the volume of any one section in any particular season. In small wares, for example, enough counter space should be provided in any one section, at any peak, to allow the maximum number of customers ample standing room in front of the counter. To provide enough space to handle the December peak, the year 'round, always results in an excessive space the year 'round and in an excessive selling cost.

As a result, in the average men's shop, in furnishings it works out to advantage to have some forward stockroom space directly adjacent to the selling space. A greater amount of actual stock per square foot can be housed in this manner, and within a given area provides a greater proportionate amount of stock to selling space. This is desirable, providing some method can be devised for increasing the selling space, such as expanding into the clothing section when necessary.

There is a considerable amount of men's furnishing stock which is more or less standardized and which is better carried in the original stock boxes. This can just as well be carried in a concealed stockroom thereby salvaging all the visible perimeter of the store for the display of forward stock, the actual display of which is a decided aid in promoting its sale. This concealed stockroom, which can carry such stock as dress shirts, collars, certain types of underwear, some stock duplicating that on display when necessary, must have provision made for form displays so that it is evident to the customers that such merchandise is carried. For example, an interesting display in a glass case showing all the collars carried in stock is not only very convenient but more valuable from a sales standpoint than taking up a considerable amount of wall space for the display of stock boxes. If it is desirable to feature the name of a national brand, such as possibly the display of the boxes would do, it can be done with proper signs.

As a matter of fact, illuminated signs of a uniform character serve not only a very useful purpose, but add considerably to the decorative effect in a functional way. If they are properly handled they are a decided help to the shopper, especially in the larger store.

DESIGN FOR ENVIRONMENTAL CONTROL

by K. Lönberg-Holm and C. Theodore Larson

LIMITATIONS IN FABRICATION

New possibilities in structural design are opened up by modern industrial production. The full economic advantages of such production can be gained, however, only through complete integration of a characteristic cycle of performance: (1) research, (2) design, (3) fabrication, (4) distribution, (5) use, (6) liquidation. Every structural design is conditioned by the limitations imposed by each phase of production, for all are interrelated and interacting: the production of a structure does not end until its final demolition. An integrated control of production is necessary for the development of structural designs which will represent the most advanced technical standards.

Industrial progress is characterized by an increasing emphasis on precision control. Refinements in measurement are made possible by the development of testing and inspecting instruments which go beyond the ordinary limitations of hand and eye. Examples: microscopy; photometry; photomicrography in visible light and in ultraviolet light; spectrography; high-speed movies; industrial radiography, utilizing X-rays and gamma rays to reveal the internal structure of metals and other crystalline materials; applied photoelasticity, utilizing the wave-length of monochromatic light to make minute observations of surface irregularities or to determine internal stresses.

The transfer of precision control to the machine is reflected in increasing *simplification* (elimination of unnecessary time, labor, materials and equipment) and in increasing *continuity* of production (synchronization of operations). Technically, the problem is the development of specific materials and specific machinery for the reproduction of specific designs (products) within specific time limits.

Precision criteria for the development of materials:

1. *Increasing constancy*—uniformity of product for specific performance; durability of substances and surfaces; resistance to deterioration or destruction by external forces.

2. *Increasing plasticity*—ability to machine.

3. *Increasing strength and lightness*—control of structural contacts or atomic slip planes; elimination of deadload.

Examples: metallography (heat-treated alloy steels; high-speed steels, cemented carbides; low melting point alloys) and industrial chemistry (processed materials, plastics).

Precision criteria for the development of machinery:

1. *Increasing specialization*—segregation of functions and motions, accuracy of parts, increasing range of variable feeds and speeds. Examples: hydraulic drive; high-speed precision boring machines; continuous lubrication; close commercial tolerances; gages.

2. *Increasing standardization*—interchangeability of units, flexibility of performance. Examples: extrusion presses; automatic die-casters; milling machines.

3. *Increasing integration*—centralized process control, synchronization of operations. Examples: electric and photronic controls; automatic temperature controls; electrical timing; automatic straight-line production (continuous strip-sheet steel mills).

With increasing efficiency of materials and machinery, the limitations of fabrication are removed and there is a corresponding increase of freedom in structural design. This is manifested by an increasing range of industrially reproducible shapes and sizes. Examples: variety of products obtained by change of dies or patterns in extrusion presses and die-casters; continuous production of sheets (steel, glass).

NEW DESIGN STANDARDS

Standards of design advance continuously as industry provides new means of fabrication—new materials, new machinery, new controls. Standards of fabrication in turn are advanced as new means of distribution—highways, railways, airways—promote the transportability of products. With full exploitation of new industrial techniques, it becomes increasingly possible to produce structures designed for precision control in use.

The limitations in fabrication are removed progressively, but the development of new structural designs is uneven. Forms originally produced as a result of limitations in fabrication tend to remain behind as traditional design patterns, while for reasons of industrial productivity the required standards of performance tend to advance. In general, structures with well-defined technical purposes set relatively the highest standards of design: they show the greatest precision in performance capacities and the greatest variety in forms. Examples: industrial plants, wind tunnels, transport units.

Traditional design forms are characterized by a lack of precision in fabrication and by a lack of uniformity in the product, necessitating large factors of safety and excessive structural mass. Wide tolerances in measurement and performance are accepted. In order to eliminate waste in fabrication, attempts have been made to simplify these traditional forms by reducing them to the simplest possible single shape and size. Such "standard minimum" designs are obtained, however, at a sacrifice in the specific character of use requirements. With increasing complexity in requirements, the inevitable result is an increasing confusion in their use.

Traditional forms represent an integration of plan and structure based on the use of natural materials and hand labor. The introduction of industrial techniques makes possible a new design integration which is needed for a more precise control of environmental forces. Example: it is not economical to air-condition forms which have evolved out of the requirements of natural ventilation.

The problem goes beyond a more efficient reproduction of traditional forms. The implied change in design standards is qualitative rather than quantitative. The design objective becomes the extension of scope of the means of control. Example: electrical sound-recording machinery, originally designed to reproduce existing sounds, can now be used as the means for designing new and unheard-of sound combinations impossible with traditional instruments.

The advance of science and technology is reflected in a shift in emphasis from standards of minimum subsistence to standards of maximum performance. The conception of shelter as a means of protection against nature or society thus changes to a conception of structural design as a means of controlling environmental forces to the advantage of the human organism. New and unthought-of forms, impossible with traditional means of production, are implied.

Technically, the objective is environmental control for the purpose of increasing productivity. Since every productive function or motion has a corresponding structural form, the technical problem becomes the design of a specific structure ("the best possible form") for each specific use in accord with desired standards of productivity.

ENVIRONMENTAL CONTROL

Increasing productivity implies an increasing degree of interaction (motion and contact) between people, between things, between people and things. Such environmental forces can be analyzed relative to two classifications of motion (energy):

(1) *Human activities*—biologic and social forces.

(2) *Matter*—solids, liquids, gases, electro-magnetic radiation.

These varying and changeable forms of energy constitute the materials of design. Technically, the problem is control of their motions and contacts to achieve their most effective transformation and arrangement into flow patterns for productive use.

The flow patterns are represented by varying conditions of density, pressure, velocity (stability). Their interactions are represented by varying degrees of change—friction, distortion, reflection, emission, dispersion, adhesion, absorption, metamorphosis.

The purpose of environmental control is the increase of life for the human organism—the elimination of waste in metabolism. This is expressed in an increasing surplus of human energy which is released from drudgery and the destructive forces of an uncontrolled environment and becomes available for the promotion of human culture.

The human organism is itself a specific but changing quantity of matter and radiation. As such it functions as an environmental force. Because of physiological limitations, it is in turn affected—harmfully or beneficially—by the action of other environmental forces.

The balance between the human organism and its environment is variable and changeable. Through instruments of environmental control, undesirable forces can be removed, desirable forces can be promoted. Such instruments may be individually or socially controlled.

Individual means of control are conditioned by the limited capacities of the human organism. This force increases, however, with the development of social means of control. The measure of social power is the degree of integration in each field of human activity.

The field of industrial activity is defined by the development of production networks—the distribution of the productive plant as determined by physical and social resources, power generation and transmission, and means of communication and transportation.

These networks are transitional in character; they are conditioned by the rate of technological obsolescence. Flexibility in productive activities involves mobility of the production networks. This in turn involves mobility of structural designs to meet the conditions set by varying rates of obsolescence.

Different aspects of this trend appear in the development of (1) structures which are themselves mobile, like trailers; (2) structural parts which are interchangeable and can be assembled or disassembled and moved about as required by varying conditions of use; (3) structural designs which promote the mobility (traffic) of people and things.

The criterion of structural design becomes the integration of motion —the control of productive flow patterns and their interactions. With increasing simplification and increasing continuity of systems of motion there is an increase in mechanical and social productivity. Advance is measured by an expanding range of human activity and by the acceleration of events.

Wide World Photo

the largest town on wheels in the world: 1,200 trailers in Sarasota Tourist Park, Florida

TRAILERS AND THE WORLD'S FAIR . . . Ernestine Evans

If the 1939 Fair is really to dramatize future customs and experiments in living of a civilization that now has 36,000,000 automobiles, at least a dozen Long Island towns ought to make bids at once for a share of the tourist traffic. There will be, in all likelihood, at least a half million trailer-owners by 1939, and a dozen municipally-owned trailer community parks might easily turn out to be high spots of the Fair Year.

Each one should show six or seven distinguishing features—not bizarre differences, but different solutions of community problems. The American imagination has not begun to work yet on the functional community. Designing a trailer city should be ideal to the modern architect: no restraining chateaux or ghettos need hold him back.

At Sarasota, the trailer camp dance hall, with its municipally paid orchestra, is not very beautiful, but in it hundreds of retired firemen, postmen, and other citizens, a good many of them past fifty, have learned to dance for the first time, and shaken off the years. A good many of these trailer couples, who go south for the winter and north to Mackinack for the summer, would come east to the Fair, if they could park on Long Island, at a reasonable rental for a lot (it is $4 a month at Sarasota) and have dependable light, telephone, and sewers hitched to their Covered Wagons, Vagabonds, Palaces, Aladdins, or whatever.

One trailer community ought to experiment by building a small motion picture theater as a model for rural counties where visual education is the next step for the schools and the Grange; a theater not built for the big Boy-and-Girl, Earthquake, War and Murder pictures, but the small musicals, the news reels, and the new documentaries on the arts, sciences, and politics. By 1939, no doubt, there will be travelogues dramatizing script from the Great American Guide Book which the federal government has just spent six million dollars in compiling. The Parent Teachers Association in some Long Island town should leap to this as a way to get a theater built for the local children. Another camp could advertise not only its base utilities, its view, its three fine sycamore trees, and popovers on Tuesday, but a Listening Post, a small arena for a crackerjack short wave radio and evenings spent listening to the radio programs from Budapest, London, Paris and Rio de Janeiro.

When the Russians have trailer villages, and they will, there will be gazebos for chess, small planetariums, sunbathing sheds, places to check the children, and round table pavilions. A dash of chautauqua and three tablespoons of convention will be something for the architect to take into consideration.

To keep up with the Joneses in the trailer in the lot next door is a game of simplification, not one of elaboration. Trailer villages breed a common drive for universal minimum services. The utilities couplings have to be uniform to be cheap. Gadgets take up room. Service, not servants, is the criterion among the sons and daughters of 4-, 6-, and 8-cylinder living.

The site of the trailer camp should be part of the town plan. A farm woman's market, like the successful market at Bethesda, outside Washington, belongs near it. Community houses, theaters, baths, community kitchens, laundries, and infirmaries, on a small scale, are all soon to be tried. Long Island misses a bet if it does not use trailer tourists to help pay for some experimental demonstrations in these new community services.

TRAILER COMMUNITIES

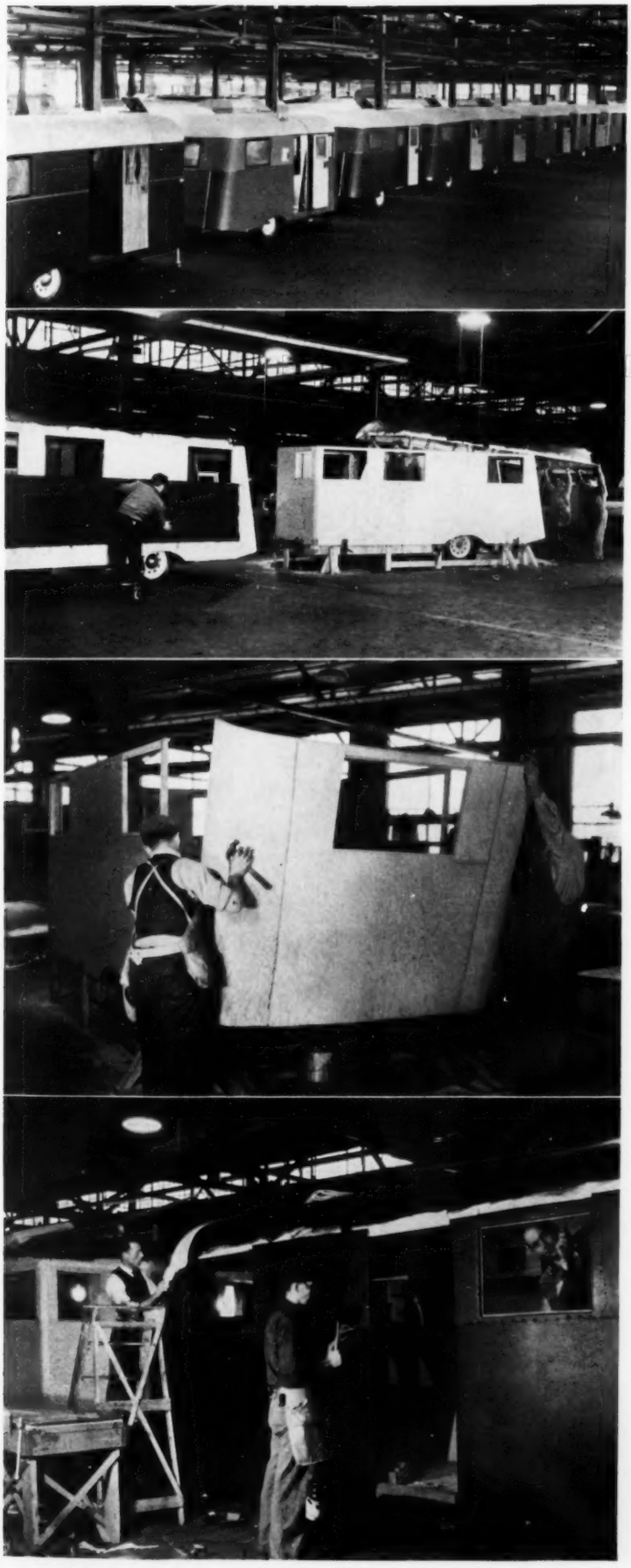
Resort cities in Florida have taken the lead in providing motor trailerites with necessary community services. Camp grounds offer electricity, water, sewage disposal, lavatories, showers. Some even have game courts and community recreational centers. Largest is the municipally owned and operated tourist camp near Payne Park (spring training grounds of the Boston Red Sox) at Sarasota. Opened 5 years ago, it now has 31 acres subdivided into 1,000 rectangular lots, each 30 feet in depth and 25 feet in frontage. It is policed, has a huge recreation hall and a community laundry. The second annual trailer show, exhibiting 50 models, was held here last February in a large circus tent. Some 1,200 trailers, housing over 3,000 visitors, were gathered here for the 16th annual convention of the Tin Can Tourists of the World (official organization of motor campers with 35,000 registered members).

California, New York, Michigan, Ohio, Indiana are also popular with the trailerites. Likewise the national parks. With a network of trailer communities developing throughout the country, a new field of architectural design opens up. Here is an opportunity for the creative designer, as Ernestine Evans, journalist and a member of the Resettlement Administration staff, points out in the accompanying article.

TRAILER INDUSTRY

The house trailer is hardly a dozen years old. Five years ago it was still a novelty. Last year the industry had grown so phenomenally that it is estimated some 250,000 trailers were on the highways. According to the American Automobile Association, nearly a million persons are expected to use trailers for touring this year. William B. Stout, famous airplane designer and transportation engineer, predicts that within 30 years half the houses in this country will be mobile. Roger W. Babson, the statistician, thinks this will occur within two decades instead of three.

Estimates as to the number of manufacturers range from 300 to 2,000. Precise figures are not available in this industry, but it seems generally agreed that the likely number is 400 at the present time. The largest manufacturer is Covered Wagon Co., Mt. Clemens, Michigan, with 160,000 square feet of floor space, 1,000 men, a 24-hour day, a 6-day week, and a quota of 10,000 trailers ($4,000,000) for 1936. The second largest manufacturer—Silver Dome, Inc., Detroit—has 300 men going full blast on a monthly 400-unit output. Each trailer requires 4 days for assembly. According to Norman C. Wolfe, president, the new plant (72,000 square feet occupied May 12) is already too small and plans are under way for additional facilities.



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PREFABRICATION in the Covered Wagon plant: (1) Completed units roll off the assembly line daily. (2) Sidewalls, ends and top are constructed in sections on jigs, and body assembly is rapid. (3) Sidewalls and ends are assembled on chassis. (4) Walls are insulated against heat and cold, and a leatherette finish is applied to the exterior.

TRAILERS FOR HOMES

Trailers designed as residences vary as much in structural form as they do in price and in type of tenancy. In fact, fine shades of distinction are made between house trailers and trailer houses, and the industry's new magazine (Trailer Travel, 180 North Michigan Avenue, Chicago) has already raised the question whether mobile housing may not be a solution of the mass-production housing problem.

The house trailer is pulled from place to place—it differs from the house car which is an automobile chassis supporting a house. Likewise pulled about is the shelter-on-wheels—the Stout Mobile House (reported in the April issue, Technical News and Research, page 332) and the Willson Mobile House (July issue, pages 64, 65).

The land yachts represent another type. These offer "sociable transportation"—they are designed and constructed to be lived in while in motion as well as while standing still. Two companies (Aerocar Company of Detroit and Curtiss Aerocar Company of Coral Gables, Florida) are producing such trailers on the basis of patents originally obtained by Glen H. Curtiss, pioneer aircraft designer and manufacturer. Regular airplane construction is utilized.

Trailers cost roughly the same as automobiles. Good standard models run between $400 *and* $1,000, *de luxe models from* $1,000 *to* $5,000 *or more. Some trailerites build and roll their own for as low as* $150.

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NEW structural forms: (1) A small trailer designed to serve Gloria Stuart's requirements as a writer and 20th Century-Fox movie actress. Acme photo (2) "Sunchaser" model produced by York-Hoover Body Corporation. (3) Kozy-Coach model. (4) Covered Wagon tandem-wheel suspension model. (5) Land yacht produced by Aerocar Company of Detroit.

TRAILER OCCUPANCY

Conditions of industrial employment have brought about an enforced mobility for large sections of the population who cannot as yet afford the conveniences of mobility. In California there are some 150,000 migratory workers living in sheepherder wagons and other miserable makeshifts. The migratory fruit and berry pickers in the South likewise are a large potential, though currently ineffective, market.

At present trailer users are chiefly vacationers, retired middle-class couples who wander about the country in season, and straightforward nomads—estimated at 100,000—who live in trailers the year round. All social strata are represented. The names of many millionaires appear in the lists of trailer owners.

Even servant's quarters have been introduced in de luxe models, as can be observed in the accompanying views of a land yacht (custom-built for C. F. Munn of Palm Beach) which is being shipped abroad for a tour of continental Europe. The front entrance door opens into a forward compartment and a main compartment; directly behind these are a commodious wardrobe, a shower bath compartment, a gallery and, at the rear, the chauffeur-butler quarters. The rear side entrance door gives access to the service section without disturbing the owner or guests. A communication system connects each of the three living compartments and the power car.

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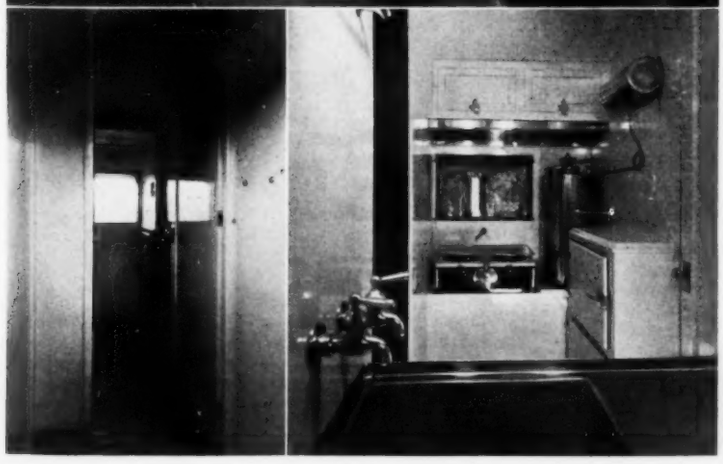

DE LUXE trailer built by Curtiss Aerocar Company: (1) Metal window canopies, four adjustable roof ventilators and louvers in front door permit air circulation even in heavy rain. (2) Adjustable-back Pullman type seats are convertible into beds. (3) Quarters for chauffeur-butler. (4) Shower bath. (5) Galley with storage for utensils and supplies.

TRAILERS IN BUSINESS

According to the U. S. Census of Distribution, 39% of all sales at retail are made in towns of 10,000 population or less. Trailers provide a low-cost means of reaching this scattered market with an adequate display of merchandise. Instead of waiting for individual customers to become interested in a product through indirect sales promotion and advertising, and then to come to the display room, it is better business—so goes the logic advanced by one trailer manufacturer—to carry the display room to selected areas, invite inspection by dealers or by the general public, and record interest shown so that salesmen may then follow through directly where desirable. A wide range of products are already being sold in this way —furniture, kitchen equipment, refrigerators, builders' supplies, hardware, jewelry, sewing machines.

Mobility has also been applied to other structural types. A company in Indiana (H. A. Thrush & Co.) uses a trailer for regional sales conferences. There are "healthmobiles," portable diners, libraries on wheels, traveling schools, theaters, even a church. A public accountant in Los Angeles maintains a mobile office. The police department of Nassau County, New York, has a portable detective office—a trailer hooks onto a police car and takes "headquarters" to the scene of the crime while clues are still hot.

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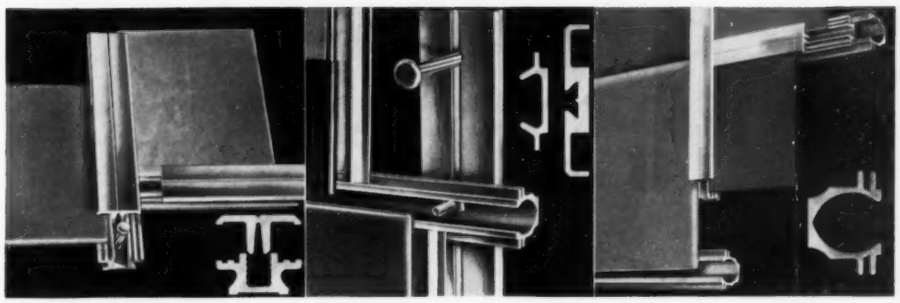
MOBILITY for profession and business: (1) Mobile dental clinic, produced by Aerocar Company of Detroit, for use on Indian reservations and in coast-guard and lighthouse service. (2) Aerocar used for display of kitchen equipment. Photos 1 and 2 courtesy of W. J. Parrish, Jr. (3) Reens furniture display room now cruising through Holland. Photo courtesy of Koen Limperg, editor of "De 8 en Opbouw."



typical assemblies: (1) gripping cap joint, (2) pointed joint, (3) combination joint

NEW JOINTS FOR NEW MATERIALS . . . Revecon System

Designed by Russell L. Hohl, architect. Produced by Revere Copper and Brass Incorporated, 230 Park Avenue, New York, and marketed through authorized distributors according to architects' specifications.

The Revecon system coordinates the use of many materials formerly offered as isolated products. Essentially it consists of a framework of extruded aluminum sections which hold in place any type of rigid sheet finishing material. Exterior or interior finishes on plane, curved, or angular surfaces may be obtained over either solid or skeleton construction. All elements form an integral structural unit, but each is free to expand or contract without distortion. The finish is rigid, lightweight, waterproof, and airtight. No painting or other other maintenance is required for the structural members. Alterations, if required, can be made easily. With the use of a large variety of flat sheet materials, wide variations of color and texture can be had with an increased freedom in design.

Component parts: The main elements in Revecon construction are (1) finishing materials, (2) Revecon members, and (3) Revecon metallic mastic. Any sheet material of standard size, not over ½" thick and rigid enough to support itself on edge, can be used. Included in this category are such examples as plain copper, lead-coated copper, chromium-plated copper, porcelain-enameled copper, bronze, aluminum, stainless steel, porcelain-enameled iron or steel; also glass, translucent marble, plastics, ceramics, asbestos cement, and other insulation or acoustical materials in sheet form. The holding, gripping and cap members are extruded sections made of a strong aluminum alloy, which may be alumilited in various colors on order. The metallic mastic seals the assembly against weather and also permits expansion and contraction within panel areas; the mastic has a non-mineral base with a binder of asbestos fiber and contains aluminum powder which "leafs out" on exposure, forming a surface that keeps the underlying ingredients plastic and immune against oxidation and any destructive action of light rays.

Types of assembly: A large variety of Revecon members are available for use with different panel materials. The many combinations which are possible resolve themselves into three typical assemblies, as shown in the accompanying illustrations. These consist of two basic designs—the capped-joint and the pointed-joint—and a combination of the two which may be used in one installation when desired. The capped-joint construction consists of panels of flat sheet material framed horizontally and vertically by metal caps which are inserted in the gripping members which, in turn, may be attached directly to supporting surfaces (furred-out when required). The pointed-joint construction consists of metal sheets with formed edges which interlock with the horizontal holding members and vertical holding channels; the panels are held in tension instead of compression, and the joints are filled and pointed with metallic mastic. With the typical combination construction, the gripping members which hold the flat sheets ride in the same horizontal holding member to which the curved edge of the formed edge sheets is locked. No special tools are required for the installations. Nails, screws and bolts are used to attach members to supporting areas.

Uses: The ease with which holding sections may be attached to any existing masonry or other surface makes the system particularly suitable to the covering of old buildings. A new front can be put over an old building with only a total additional thickness of 1" if formed edge decorative metal and ⅜" if flat sheet panels are used. All work can be done to the exterior without damage to the interior wall surfaces, and panels may be individually removed or replaced, if necessary, without damaging any surrounding wall panel. Store fronts, complete or combined with products of other manufacturers, represent another important application; likewise garages, service stations and buildings with light supporting framework. Partitions, boiler and radiator casings, cabinets, signs, spandrels, and the like, may also be constructed.

bank lighting is both direct and indirect

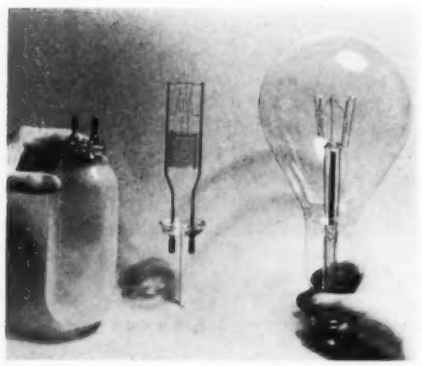
new lighting system for bank

Designed for Nela Park branch of Cleveland Trust Company by General Electric engineers under supervision of Alston Rodgers and with cooperation of A. G. Hall, the bank's architect. Lighting troughs and projectors furnished by the Day-Brite Reflector Company (Sweet's Catalog File 28/15), St. Louis, after fundamental plans by the Nela Park Engineering Department.

The lighting equipment is built into the walls and ceilings, as an integral part of the room structure and design. Most of the light is projected downward, through carefully shielded ceiling ports, directly upon the tellers' counters, check desks, tables and other work areas. A separate system of indirect lighting gives well-diffused general illumination over the ceiling and walls. All light sources are carefully concealed and shielded from direct view so that there is no uncomfortable overhead brightness and glare.

Banking room: The arched white ceiling is softly lighted from lamps concealed behind the wide molding which runs around the walls at a height of about 8 feet above the floor. Wiring channels are embedded in the walls behind the molding and a continuous band of 60-watt lumiline lamps is attached to the channels. The wood molding is set a short distance out from the wall to allow some of the light to filter downward and illuminate the wall areas. Directly above the tellers' windows and over the check desks two long slots, about 9 inches wide and 28 feet long, are cut in the arched ceiling. Long "alzak" aluminum reflecting troughs direct light downward through the narrow openings and concentrate the illumination on the working surfaces. The openings are covered by panels of pebbled glass.

Lighting provisions: Not less than 25 to 30 foot-candles are provided at all times. This is an average of about 10 watts per square foot in contrast to the usual 2 or 3 watts. Total connected lighting load is 19.5 kilowatts.



new mazda lamp . . . old lamp model

new 1,000-watt mazda lamp

T-24, inside frosted Pyrex bulb announced by Westinghouse Lamp Company (Sweet's Catalog File 28/9), Bloomfield, N. J.

Tubular in shape and about half the size of the 1,000-watt PS-52 bulb Mazda lamp now used for the general illumination of large industrial and commercial installations, the new lamp will permit the use of smaller reflectors and accessories. The Pyrex bulb will better withstand breakage from snow and rain in outdoor installations, thus foregoing the need of costly waterproof equipment. For the first time a specific structural member has been incorporated within the bulb of a Mazda lamp to collect and localize the tungsten blackening. Two wire meshes, each about 1½" square, are attached to the lead-in wires just above the filament when the lamp is in its correct burning position of base-up. As the filament sublimates during burning, the tungsten metal vapor rises with the heat and condenses on the surface of the wire mesh which is located at a point where little of the light is intercepted. This minimizes the gradual depreciation of the light output through life, which is a serious problem in the conventional high-wattage lamps. The new bi-post lamp is designed for 110, 115 and 120 volt service, and has a maximum over-all length of 9½".

lumiline plug-ins

plug-ins for lumiline lamps

Announced by National Electric Products Corporation, Fulton Building, Pittsburgh.

The "plug-in" strip fits into a space only 1" wide. With plug-ins spaced on 6" centers, either 12" or 18" lumiline lamps can be used. Special receptacles are not needed. For tandem lamp mounting two plug-ins are inserted back to back. The tension of the contacts is sufficient to permit the strip to be installed overhead without danger of the plug-ins pulling out. One type of plug-in has a narrow housing which is hardly noticeable when the lamps are exposed and used in continuous runs. Another type has a wide housing for single lamp installations.

midget mercury lamps

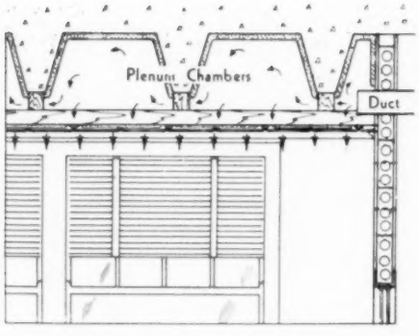
The same type of lamp has been introduced by both General Electric Vapor Lamp Company, Hoboken, N. J., and Westinghouse Lamp Company, Bloomfield, N. J. Taken from a fundamental design by the Philips Lamp Company of Holland, the new mercury light is a practical outcome of an experimental design which was demonstrated before a New York group of engineers and scientists last March. A report of this development appeared in the May issue of Technical News and Research, pages 408 and 409.

The new 85-watt mercury lamp operates at an efficiency of approximately 35 lumens per watt, producing approximatly 3,000 lumens of light or the illumination practically equal to that of a conventional 200-watt incandescent lamp. It represents the latest step in broadening applications for bulb-type mercury lamps, which have already achieved wide use in the 400-watt and 250-watt sizes, particularly in the illumination of factory interiors and filling stations. The small size and efficiency of the lamp, in comparison to its high light output, appear likely to result in the development of compact new fixtures and reflectors.

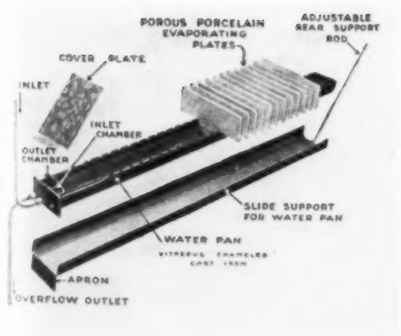
ATMOSPHERIC CONTROL . . . perforated ceiling panel

Wetzler Studios, Inc.

Tashjian ceiling with 900,000 air inlets



Burgess perforated acousti-vent ceiling



more plates provide more humidification

ventilating ceiling

System developed and patented by A. H. Tashjian of the firm of Walker and Weeks, architects. Installed in the Cleveland office of W. Bingham Co., wholesale hardware establishment. Consulting engineer: M. A. Boyd of Clark, MacMullen & Riley, Inc. Construction by Rivet Grip Steel Company.

The new ceiling is made up of special fiber board tiles, thick and rectangular in form, which form a free-paced plenum chamber over the entire room 6 inches below the existing ceiling. Two types of tiles are used—perforated and solid. The perforated tiles have ⅜″ diameter holes bored on 1″ centers over this entire area; all holes incline in the same direction at a 45° angle.

Ceiling arrangement: According to the calculated requirements of the room, the ceiling is divided into (1) air-conditioning area, (2) sound-absorbing area, and (3) light-reflecting area. From these data the tiles are arranged in geometric pattern. The drilled tiles follow the outer perimeter of the ceiling area. Because of the tile thickness the inclined holes constitute directional nozzles, sending the flow of air in a definite direction according to the orientation of the tile in place. The unperforated tiles are grouped about light fixtures and provide solid paintable surfaces for good light distribution.

Test findings: It has been found that with the number of drilled tiles required for a given volume of air ventilation, sufficient sound is absorbed to produce effective noise reduction in the room. The static pressure maintained in the ceiling plenum is sufficient to obtain uniform air flow through the perforated tiles 50 feet away from the supply duct without draft anywhere.

sound-absorbing ventilation

System devised by the C. F. Burgess Laboratories, Inc., of Chicago. The Acoustic Division of the Burgess Battery Company Madison, Wisconsin, as a licensee, is marketing this new product under the name of Burgess Acousti-Vent.

This system combines air distribution and sound absorption. It comprises a perforated ceiling made of a suitable architectural surface installed slightly below the normal ceiling level of the room. Between the perforated sheet and the room ceiling is a sound-absorbing material installed with sufficient clearance so that a space is provided between this material and the ceiling. This space provides a plenum chamber into which air is introduced through ducts from the ventilating fan. A uniform, low static pressure is maintained in this plenum chamber and suitable means are provided to cause the air to pass to the underside of the sound-absorbing material without passing through it, and thence through the myriads of small openings in the perforated subceiling into the room.

Atmospheric control: Air flows imperceptibly and uniformly through the perforated ceiling into every part of the room affording accurate temperature control. Tests indicate that there is no appreciable temperature variation throughout the room. Due to the large ceiling area and the low air velocity at every point, the Burgess Acousti-Vent system makes possible a rapid change of heated or cooled air without drafts, a feat not possible when air is forced into a room at concentrated points through conventional duct systems.

Sound control: Room noises, upon reaching the perforated metal ceiling, seep through the small perforations and encounter the resilient sound-absorbing material placed behind the perforations. These sound waves are instantly absorbed causing a marked reduction in the noise level of the room. (See description of doorless telephone booth, reported in April issue of Technical News and Research, page 338.) In addition to room noises, the noises of the ventilating system are also absorbed.

adjustable humidification

Developed by The Monmouth Products Company, 207 East 131 Street, Cleveland.

This humidifying system, known as "Automatic June," is designed for warm air heating plants and air conditioning systems. A vitreous enameled cast iron water pan, 3″ wide, is supported level inside the furnace casing top in a slide support so that the water pan may be withdrawn like a drawer. Crosswise upon the pan a series of porous porcelain evaporating plates are placed in notches. The middle portion of these plates extends downward into the water in the pan. The plates have millions of fine pores which draw up water by capillary action. The warmed air which circulates through the furnace casing passes across the wet vertical surfaces of the evaporating plates, rapidly absorbing moisture from them. Nearly all the evaporating is done by the porcelain plates. The number of plates required is approximately calculated. If not correct, evaporating plates are added or removed until the results desired are secured.

automatic control for urinals

Produced by Fulton Sylphon Co. (Sweet's Catalog File 26/86), Knoxville, Tenn.

"Therm-O-flush" is a thermostatically operated device that automatically operates the flush valve to flush the urinal each time the urinal is used and only when used. It derives its action from the the heat of the urine passing over the thermostat installed in the waste outlet. The thermostatic action operates a valve placed in the relief pipe line to relieve the pressure in the dome of the flush valve, thus giving the same flushing action as would be accomplished by manual operation of the flush valve handle. No special urinal is required—the control may be used with any standard urinal except types which maintain water in the bowl.

uppermost signals for elevators

Annunciator developed by Richards-Wilcox Manufacturing Co. (Sweet's Catalog File 30/15), Aurora, Illinois. Installed for first time in the McNeill Building, 328 West Jackson Boulevard, Chicago.

The annunciator is used in elevator cars to show the operators at all times the highest floor at which a signal is registered. This electrical instrumetn incorporates an operator's flash and single stroke gong in conjunction with an indirectly illuminated dial calibrated to the number of floors served by the elevator in which it is installed. The signal is designed to increase the efficiency of elevator plants that are operated over the full range of their travel during busy periods, but whose traffic requirements are such that only intermittent service is necessary at certain times when the car or cars operate on call only.

new flux for soldering metals

Manufactured by Alumaweld Company of America, 2442 South Parkway, Chicago.

With Alumaweld older and flux repairs can be made on any metal or any two different metals can be joined if desired. The solder has a tensile strength of 12,000 pounds. The finished joint can be worked or machined. It also takes a polish over which chromium or any other plating can be applied.

moisture-proofing material

Recently placed on the market by the Mitchell-Rand Manufacturing Corporation, 51 Murray Street, New York City.

"Rubberseal Copper" consists of Anaconda "Electro-Sheet" Copper, 2 to 7 oz., coated on both sides with a special acid and alkali-proof compound. The product is exceptionally flexible and remains so at freezing temperatures. It is unaffected by heat, moisture, or dryness. It is said to bond itself to any dry surface, thus eliminating the need of nailing or other method of attaching. Even when nails are driven through the material, the compound closes in and around the nail, effectively stopping the passage of air currents or water.

easily installed unit conditioner

Announced by General Electric Company (Sweet's Catalog File 26/9), Bloomfield, N. J.

The new equipment will cool, dehumidify, ventilate, and filter the air in an average-sized room. No special plumbing or electrical work is required. The only installation necessary is the placing of a telescopic duct connection in a partly opened window. This duct introduces fresh air for adequate ventilation, as well as a supply of air for cooling the air-cooled condensers and removing heat and moisture which has been taken out of the room air by the three cooling units. These units, hermetically sealed, are started automatically one after the other so as to avoid an overload on the ordinary lighting circuit, which makes it possible to plug the machine in any light socket without special wiring of any sort.

air conditioning refrigerator

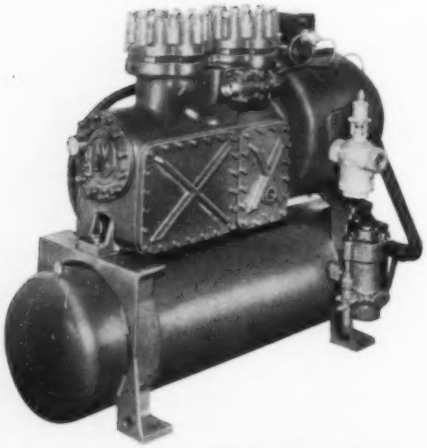
Manufactured by General Electric Company (Sweet's Catalog File 26/9), Bloomfield, N. J.

A V-type compressor of 8 cylinders, electric motor, and tube type of condenser are all mounted in one compact unit. High economy of water and electric power is obtained. The refrigeration capacity is equivalent to the melting of forty tons of ice in twenty-four hours.

hermetically sealed condensers

Announced by Westinghouse Electric & Manufacturing Company (Sweet's Catalog File 26/18), Mansfield, Ohio.

The new type "CLS" units have nominal ratings from 7 to 22 tons cooling capacity. The motor is completely inclosed with the compressor, preventing dust, dirt and moisture from reaching working parts. The rotor of the driving motor is overhung from the main rear compressor bearing on a short stubby extension of the compressor crankshaft. This gives an ultra compact direct drive, avoids ever having to oil the motor and eliminates use of belts and pulleys. The motor is water cooled making the unit suitable for installation in even unventilated locations. Small for its capacity, the unit saves valuable floor space. The reduced weight makes it easier to handle and usually avoids the necessity of special foundations.



new Westinghouse condenser